1 2269 2 35 3 35
ARIES Description Pred. No
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
Statistics: Mean 12.393; Variance 5.861; scale 2.114
Database: 9enbank-new3 82:BCT 83:INV1 84:INV2 85:MAM 86:VRT 87:PAT 88:PHG 89:PLN 90:PRI 91:ROD 92:STR 93:SYN 94:UNA 95:VRL Database: u-emb146_94 96:part1
Database: embl-new5 I:BCT 2:FUN 3:INV1 4:INV2 5:ORG 6:MAM 7:VRT 8:PLN 9:PRI 10:PRO1 11:PRO2 12:ROD 13:SYN 14:UNC 15:VIR Database: genbank94 Database: genbank94
Post-processing: Minimum Match 0% Listing first 45 summaries
Searched: 279077 seqs, 411808665 bases x 2
Nmatch STD: Dbase 0; Query 0
Scoring table: TABLE default Gap 6
Title: >US-08-674-311-1 - Ann A. Segretation: (1-2269) from US08674311.seq (1 of 2) Perfect Score: 2269 N.A. Sequence: 1 GAATTCCGCTCCGCACTGCTAAAAAAAAAAAAGCGGAATTC 2269 Comp: CTTAAGGCGAGGCGTGACGATTTTTTTTTTTTTCGCCTTAAG
Run on: Mon Feb 10 22:24:05 1997; MasPar time 1590.83 Seconds 1174.723 Million cell updates/sec Tabular output not generated.
MPsrch_nn n.a n.a. database search, using Smith-Waterman algorithm
Release 2.1D John F. Collins, Biocomputing Research Unit. Copyright (c) 1993, 1994, 1995 University of Edinburgh, U.K. Distribution rights by IntelliGenetics, Inc.

o	000	0 0	იი ი	0 000 0 0
44421 544321		3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	115 116 117 119	1111 1111 1111 1111 1111 1111 1111 1111 1111
225 25 25 25	222222	, , , , , , , , , , , , , , , , , , ,	255577	3 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
20991 20992 25599 36576 36939	7845 7845 8387 8622 10050 13133	11305 11305	5550 55136 77743 684973 684973	38946 1117 180388 127 127 675 675 675 1773 1773
ναν ν	44 404		1 4 A B B B B B B B B B B B B B B B B B B	0 W D D D 4 4 4 D 4 W
LEIKPMAX KLKPMAX CELW02B3 HSU161B10 CELK02G10	SCPPR1GEN CE33933 YSCMTCYTOC HSGLUCG2 ALRBCL	RN11ZNBP RNIGK132A RATIGK132A DDICALA HUMRNPC2A A18049 HSTALIAA DDP8A7 ITUS1741 ITUS1741 ITUS1741 HSLIPASE TOMISC70A PEASA7	RRCYTECO HUMVITDBP HSTCRBV HUMTCRBV HUMTCRB YSCMTCO32 MCU15671 MCU15671	CELB0228 S73207S1 HUMRETBLAS HS117E6F HS117E6F HS117E6R MICPATP9 MICPATP9 ATLUEAP S67474S5 DDISASIA PPAMRNA
ania tarentola ania tarentola habditis elega DNA sequence f habditis elega	L.esquientum gene ror S.cerevisiae DNA for Caenorhabditis elegan Saccharomyces douglas Human glucagon gene. A.longa rbcL, rpl5, r		R. rubrum cytochrome R. rubrum cytochrome Human vitamin D-bindi Human v beta T-cell r Homo sapiens (clones: Yeast (S.cerevislae) Myrmecia croslandi HT D.melanogaster DNA co	Caenorhabditis elegan MHC 67-myosin heavy-c Human retinoblastoma H. sapiens CpG DNA, cl H. sapiens CpG DNA, cl C. parapsilosis mttoch C. parapsilosis mt ATP A. thaliana mRNA for 1 (GC*IS)-vitamin D-bin D.discoideum GTP-bind Plasmodium falciparum
	000000	1.02e+00 1.02e+01 1.02e+01 1.02e+00 3.22e+00 3.22e+00 3.22e+00 3.22e+01 1.02e+01 1.02e+01 3.22e+00 3.22e+00 1.02e+01 3.22e+00 3.22e+00 1.02e+01 3.22e+00		77877777722

ALIGNMENTS

FEATURES	JOURNAL	TITLE	AUTHORS	REFERENCE	MEDLINE	JOURNAL			TITLE			AUTHORS	REFERENCE				ORGANISM	SOURCE	KEYWORDS	NID	ACCESSION	DEFINITION	Locus	RESULT 1
University of Chicago Pritzker School of Medicine, 5841 S. Maryland Avenue, Chicago, IL 60637-1470, USA Location/Qualifiers	Submitted (06-MAR-1995) Olufunmilayo I. Olopade, Medicine,	Direct Submission	Olopade, O. I.	2 (bases 1 to 2269)	_	Proc. Natl. Acad. Sci. U.S.A. 92 (14), 6489-6493 (1995)	٠,	and cloning of the human methylthioadenosine phosphorylase gene	Construction of a 2.8-megabase yeast artificial chromosome contiq	Bohlander, S.K.	III., Dreyling, M.H., Gursky, S., Stadler, W.M., Le Beau, M.M. and	Olopade, O.I., Pomykala, H.M., Hagos, F., Sveen, L.W., Espinosa, R.	1 (bases 1 to 2269)	HOMO.	Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;	Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;	Homo sapiens	human.		g847723	U22233	Human methylthioadenosine phosphorylase (MTAP) mRNA, complete cds.	HSU22233 2269 bp mRNA PRI 25-NOV-1995	

```
ggcagaaagcttcatgttccgcacctgggggggggatgttatcaacatgaccacagttcc
                                     ACTCCGGTGCCACTCAAAGGGGACATGGTCACAATCGAGGACCTCGTTTTAGCTCCCG
                                               99Ct9agccgttttgccccaaaacgagaggttcttatagagactgctaagaagctagg
                                                                                                                                                                                                                                                                                 gcatggaaggcagcaccatcatgccttcaaaggtcaacctaccaggcgaacatctgggc
                                                                                                                                                                                                                                                                                                             gccatctgatgccttaattttggggaagataaaaaatgttgattgcatcctccttgcaag
                                                                                                                                                                                                                                                                                                                                                         GGCTGAGCCGTTTTGCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGG
                                                                                                                                                                         GAGATTCAGCCCGGCATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAG
                                                                                                                                                                                      ggagattcagcccggcgatattgtcattattgatcagttcattgacaggaccactatgag
                                                                                                                                                                                                                                     tttgaaggaagagggctgtacacatgtcatagtgaccacagcttgtggctccttgaggga 420
                                                                                                                                                                                                                                                                   GCATGGAAGGCAGCACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   gctcgcttggttcccttagtcccgagcgctcgcccactgcagattcctttcccgtgcaga
                                                                                                                                                                                                                       TTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                        CATGGCCTCTGGCACCACCACCACCGCCGTGAAGATTGGAATAATTGGTGGAACAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                     catggcctctggcaccaccaccgccgtgaagattggaataattggtggaacaggcct 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            h 100.0%;
Similarity 100.0%;
269; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="18-11 cDNA"
/map="9p21"
/chromosome="9"
/cryanism="Homo sapiens"
/sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene-"MTAP"
//codon_start-1
/product-"methylthloadenosine phosphorylase"
/broduct-"methylthloadenosine phosphorylase"
/db_xref-"pii:g847724"
/translation-"MASGTTTTAVKIGIIGGTGLDDEELLEGRTEKVDTPFGKPSDA
LIIGKIKNVDCILLARHGROHTIMPSKVNYQANIWALKEGGTHYIVTTACGSLREEI
QEGDIVILDQFIDRTTMXEPQSFYDGSHSCARGYCHIPMAEPFCPKTREVLIETAKKLE
QEGDIVILDQFIDRTTMXEPQSFYDGSHSCARGYCHIPMAEPFCPKTREVLIETAKKA
LICHKINVTLEGPRESSRAESEMFRWGADVINMTTVPEVVLAKEAGICYASIAMA
TDYDCWKEHEEAVSVDRVLKTLKENANKAKSLLLTTIPQIGSTEWSETLHNLKNMAQF
SVLIPH"
a 407 c 490 g 647 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /cell_line="primary culture"
/cell_type="fibroblast"
/tissue_type="epidermis"
122..973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .2269
lone="18-11 cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 2269; DB 56;
Pred. No. 0.00e+00;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 2269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ,0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                               480
                                     660
                                                           660
                                                                                                       600
                                                                                                                              540
                                                                                                                                                   540
                                                                                                                                                                          480
                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
               720
                                                                                 600
                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
  Š
                                          Š
                                                                    밁
                                                                                         δÃ
                                                                                                                ğ
                                                                                                                                      Ş
                                                                                                                                                            밁
                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                             Š
                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
     1741
                         1741
                                               1681
                                                                    1681
                                                                                             1621
                                                                                                                   1621
                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                                                         1321
                                                                                                                                         1561
                                                                                                                                                               1561
                                                                                                                                                                                     1501
                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
99aactctacatctagcaatttctcttttaaaaccatatcagagatgcatacaaagaatta 1500
                                                                                                                                                                                                                                                                         CTGAAAATCCTTTTTGCATATTTCAATGTCCTAAAAAGACACGGTTGCTCTATATATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                           aaaatattacattttaagggggaaaaaaaaaaaccccaccattctcttctccccctattaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aatgatttagacaacttcaaaatacagaagaagacaaatgactagtaaacatgtgggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttgcctatcaaagagtatgttgtaagaaagacaagacattgttgtattagagactccttg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   accaagacattaaagtagcatggctgcccaggagaaaagaagacattctaattccagtca
                                                                                                                                                                                                                              GGAACTCTACATCTAGCAATTTCTCTTTAAAACCATATCAGAGATGCATACAAAGAATTA
                                                                                                                                                                                                                                                                                                                                                                                                                AATGATTTAGACAACTTCAAAATACAGAAGAAAAGCAAATGACTAGTAAACATGTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCCTATCAAAGAGTATGTTGTAAGAAAGACAAGACATTGTGTGTATTAGAGACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACCATACCATACCTCAGATAGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCAAGACATTAAAGTAGCATGGCTGCCCAGGAGAAAAGAAGACATTCTAATTCCAGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaaagaaaacgctaataaagcccaaaagcttactgctcactaccatacctcagatagggtc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttatgactgctggaaggagcacgaggaagcagtttcggtggaccgggtcttaaagaccct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agaggtggttcttgctaaggaggctggaatttgttacgcaagtatcgccatggcgacaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGA 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCAGAAAGCTTCATGTTCCGCACCTGGGGGGGGGGGGTTATCAACATGACCACAGTTCC
                      1800
                                          1740
                                                                   1740
                                                                                          1680
                                                                                                                                      1620
                                                                                                                                                            1620
                                                                                                                                                                                  1560
                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
```

Ş 밁 Ş

241 241

문

Ş

밁 Qy g Q 밁

BASE COUNT ORIGIN

CDS

Matches Query Match Best Local

2269;

뮍

181 121 121 61 61 \vdash ш

181

밁 δÃ В Ş g Ş B δÃ 문 Qy 밁 δõ

> 601 541 541 481 481 421 421 361 361 301 301

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                       JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acagtacttgggtgtgcaacagctttctgagaaaagctaggtgtataatagtttaactga 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      taagggagttacatctttattctgctaaagaagagggtcattgatttctgtacagtcaga 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaacactgtttctggtaatgaagcagaatttaagttggtaatattaaggtgaatgtcatt 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ataatcaaatagtaaagggccgtaaaaataaaaagtggatttagaaagatccagttcttga 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGGATAATTTTTATTTTCTTTGAATCTTTCTGTGTCTTCACATTTTTCTACAGTGAAT 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAAGGGAGTTACATCTTTATTCTGCTAAAGAAGAGGATCATTGATTTCTGTACAGTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATAATCAAATAGTAAAAGGGCCGTAAAAATAAAAGTGGATTTAGAAAGATCCAGTTCTTGA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACAGTACTTGGGTGTGCAACAGCTTTCTGAGAAAAGCTAGGTGTATAATAGTTTAACTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAACACTGTTTCTGGTAATGAAGCAGAATTTAAGTTGGTAATATTAAGGTGAATGTCATT 1980
                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (06-JUL-1994) to the EMBL/GenBank/DDBJ databases.
Millward, Friedrich Miescher-Institut, Basel, Postfach, 254:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryotae; mitochondrial eukaryotes; Metazoa/Eumycota group; Metazoa; Eumetazoa; Bilateria; Coelomata; Deuterostomia; Chordata; Vertebrata; Gnathostomata; Osteichthyes; Sarcopterygii; Choanata; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Archonta; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       H.sapiens mRNA
Z35102
                                                                                                                                                                                                                                                      Molecular cloning and characterization serine(threonine) protein kinase Proc. Natl. Acad. Sci. U.S.A. 92 (11),
                                                                                                                                                                                                                                                                                                             2 (bases 1 to 3018) Millward, T., Cron, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSPROKINX
                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 3018)
/codon_start=1
/product="Ndr protein kinase"
/product="Ndr protein kinase"
/db_xref="pID:g854170"
/db_xref="pID:g854170"
/translation="Mam4170"
/translation="Mam54170"
/KKLEKVMEEEGLKDEEKRLRRSAHARKETEFLRLKRTRLGLEDFESLKVIGRGAFGE
VRLVOKKDTGHYVAMKILKKADMLEKEQVGHIRAERDILVEADSLMVVKMFYSFQDKL
VRLVOKKDTGHYVAMKILKKATLTEEETOFYIAETVALIDSLAGINFUKDINL
NLYLIMEFLPGGDMMTLLMKKOTLTEEETOFYIAETVALIDSLAGINFUKDINL
                                                                                                                                     596..1993
                                                                                                                                                /clone="human Ndr protein kinase"
/clone_lib="Human fetal brain/Stratagene
                                                                                                                                                                                     /organism-"Homo sapiens"
                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3018 k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        r Ndr
                                                                                                                                                                                                                                                                                                           and Hemmings, B.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        kinase
                                                                                                                                                                                                                                                         (11), 5022-5026
                                                                                                                                                                                                                                                                                           of a
                                                                                                                                                                                                                                                                                             conserved nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2269
                                                                                                                                                                                                                                                         (1995)
                                                                                                                                                    936206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2040
                                                                                                                                                                                                                                                                                                                                                                                    Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 皮
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ဌ
                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1419
                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        449
```

밁 Ş 밁 δÃ 밁 δÃ 밁 δÃ 밁 á 밁 Š В S 밁

```
AGTCGCATCAATA 1347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         attcctaccaata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tttctctggcttttgttacatattacctgtttgtcctccagaaaacttgcaccaatttac 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPAC16C9
S.pombe c
                                                                                                                                                                                             overlapping sections once, or longer, because we arrange small overlap between neighbouring submissions. Cosmid c16C9 is overlapped by cosmid c4G8 at the 5' end a
                                                                                                                                                                                                                                                                    (complementary strand).

The more significant matches with motifs in the PROSITE database also included but some of these may be fortuitous.

The length in codons is given for each CDS.

IMPORTANT: This sequence MAY NOT be the entire insert of the sequenced clone. It may be shorter because we only sequence
                                                                                                                                                                                                                                                                                                                                                                                                                       computer analysis using the Genefinder program in PomBase (an ACEDB database) with additional predictions for the branch-acceptor sites supplied by the program Sp3splice. CAUTION: It is possible that for any individual CDS we may have underestimated or overestimated the number of introns/exons or we may not have chosen the correct splice donor/acceptor sites.

CDS are numbered using the following system eg SPAC5H10.01c. SP (S. pombe), A (Chromosome 1), c5H10 (cosmid name), .01 (first CDS), c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (12-OCT-1995) to the EMBL/GenBank/DDBJ databases.
Schizosaccharomyces pombe chromosome I sequencing project,
Schizosaccharomyces pombe chromosome CBIO IRQ E-mail:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Archaeascomycetes; Schizosaccharomycetales; Schizosaccharomycetaceae; Schizosaccharomyces 1 (bases 1 to 14071)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fission yeast.
Schizosaccharomyces pombe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAK32 protein homologue; NAM7 protein homologue; serine/threonine protein kinase; zinc finger protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Details of yeast sequencing at the the World Wide Web.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                barrell@sanger.ac.uk
                                                                                                                                                                             Cosmid c16C9 is overlapped by cosmid c2G11 at the 3' end.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Barrell, B.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Badcock, K. and Churcher, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryotae; mitochondrial eukaryotes; Eumycota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 yeastpub/svw/home.html)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              h 1.5%;
Similarity 74.0%;
54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (URL, http://www.sanger.ac.uk/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 14071)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chromosome
/chromosome="I"
/clone="cosmid c
/map="IL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QLAFSTVGTPDYIAPEVFMQTGYNKLCDWWSLGVIMYEMLIGYPPFCSETPQETYKKV
MNWKETLTFPPBVPISBKAKDLILRFCCEWEHRIGAPGVEEIKSNSFFEGVDWEHIRE
RPAAISIEIKSIDDTSNFDEFPESDILKPTVATSNHPETDYKNKDWVFINYTYKRFEG
LTARGAIPSYMKAAK"
                                                                                                                                1..14071
                                                                         /strain="972h-"
                                                                                                      /organism="Schizosaccharomyces
                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14071 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rajandream, M.A. and Walsh, S.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
cosmid c16C9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       672 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              e 35; DB 55; L
. No. 2.62e-05;
Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sanger Centre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          are available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       homologue;
                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                database
                                                                                                                                                                                                                                                       for a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1360
                                                                                                                                                                                                     γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
```

Sg

```
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                             /Product="unknown"
//Product="unknown"
// db_xxef="piD:91019815"
// db_xxef="piD:91019815"
// db_xxef="piD:91019815"
// translation="mbmSscsmdyAFqDsEpriAsTilcCeEGyPTPDNAAAMCMDCIK
// translation="mbmSscsmdyAFqDsEpriNtyQCEDCARTYTPHTWATDITSGIPRESTVHHCRECEERYMQPPNNWMIAPLESRELMAICLKKLRGLNQVRLV
BANFIWTEPHSRRIKVKLTYQKEAFTNTILQQSEQVEEYYNNYQCEDCARTYTPHTWA
AVCQVRGKVLHKRTFYLEGIILKHKAHHNTVBIKETERGIIFYFGGAHAIKWEFL
SAVVPIRYKGSEELISEDFKSWTANYKFTYSSEIVPTCKDDLVCLEKTVAKAHGNIAQ
LVVCTKVGPFIRELDELTIGTCOMLPSIYMRTFFFAHADIPELTEFYVADVDLLGFTN
GKYALADVELIKSSDGSTHLTRTHLGGILNAGMYVLAKHLAVTNFNEEDSI
PEVVIVKKTYPQTKKKNRWRLKTIGMCKAEDYKKQDIERGEDYELFLQNLEEDPEL
RQGYNLKAPVKATAVADTYDMEEDETVEDIFQISTVEELDDVEMMHI"
Complement(join(5081.6317,6406.6585,6636.6688))
/gene="spac16c9.04c" regulatory protein, len: 489, similar
to SW:NOT4_YEAST 934909 general negative regulator of
transcription subunit 4 (NOT4) (38.8% identity in 417 aa
overlap); pid:e204618"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="unknown"
//db_xxef="pib;gl019814"
//db_xxef="pib;gl019814"
//db_xxef="pib;gl019814"
//tanslation="MKOAEPILLGVIGGSGFYDLPGFDIVESVNPITPWGYPASPIS
/translation="MKOAEPILLGVIGGSGFYDLPGFDIVESVNPITPWGYPASPIS
IARTTSGFLIAFLARHGVHIYTPTEVPSRANIAALKSLGVLAIVSFSAVGSIREDLP
PEDFYLPTQIIDRTICARPWTFFSECVAHVSFGDPFDQDLYEILSGGSKLKNGSKL
HTKRGDDLTVYCKEGPAFSTRAESHLYRSWGASIINKSVPEAKLAREAEIAYONCO
MATDYDCHRANNEEPYTVETVMEHISNNKUNAKIFLLEAVKKLEAPLLOGFLGRNLRES
VQNGIQTNIKHRNEDAIRRLOFLFPNLTIPH"
VQNGIQTNIKHRNEDAIRRLOFLFPNLTIPH"
/gene="SPAC16G9.02c"
/note="spac16g branch and acceptor sequence,
ttascasasatag"
ttascasasatag"
ttascasasatag"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement(1131..1136)
/gene="spac16c9.02c"
/note="splice donor sequence, gtaagt"
complement(1698..1713)
/gene="spac16c9.02c"
/note="splice branch and acceptor sequence, ctaacgttttattcag"
complement(1741..1746)
/gene="spac16c9.02c"
/note="splice donor sequence, gtatga"
1170 #KER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3172.4668
//gene="SPAC16C9.03"
//gene="SPAC16C9.03"
//note="SPAC16C9.03, unknown, len: 498, similar to SW:YHXO_YEAST p38861 hypothetical 59.1 kD protein (54.9% identity in 494 aa overlap); pid:e204617"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(211.216)

/gene="spacific9.01c"
/gene="spacific9.01c"
/note="splice donor sequence, gtaaaa"
/note="splice branch and acceptor sequence, ctaacacttag"
/note="spacific9.02c"
/gene="spacific9.02c"
/note="spacific9.02c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-"overlap with 4G8"

complement(96..101)

/note-"splice donor sequence, gtaagt"

complement(join(>100..179,217..256))

gene-"SPAC16C9.01c"

/note-"SPAC16C9.01c"

complement(join(>100..179,217..256))

/gene-"SPAC16C9.01c, partial spliced CDS, len: >39,

identiar to SW:MK32_YEAST P23060 MAK32 protein (46.7%

identity in 30 aa overlap); pid:e204615"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /translation="MDYPSKDVEFVTTGMFIIDEIEFDGGKKIKDIIGGAGSFG"
complement(180..193)
/gene="SPAC16C9.01c"
/note="splice branch and acceptor sequence,
ctaacgaatgcaag"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="PID:g1019813"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "unknown"
                                                                                                                                                                                   BASE COUNT
ORIGIN
           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sgo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                   4537
                                                                                                                                                           /Product="unknown"
//Broduct="unknown"
//Brodu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement(9398..12205)
/gene="SPAC16G9.06G"
/note="SPAC16G9.06G, len: 935, similar to SW:NAM7_YEAST
/note="SPAC16G9.06G, len: 935, similar to SW:NAM7_YEAST
P30771 NAM7 protein (UPF1 protein) (51.0% identity in 931
aa overlap); contains PS00017 ATP/GTP-binding site motif A
(P-loop); pid:e204620"
/product="unknown"
complement(10913..10936)
/gene="SPAC16G9.06C"
/note="PS00017 ATP/GTP-binding site motif A (P-loop)"
/13084..314071
/gene="SPAC16G9.07"
/gene="SPAC16G9.07"
/note="SPAC16G9.07, len: > 329, partial orf, overlaps
cosmid c2G11 orf SPAC2G11.01, putative serine/threonine
protein kinase; pid:e204621"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="unknown"
/db_xref="pi1:g1019817"
/db_xref="pi1:g1019817"
/translation="massinnssqppypsisnnshgdsfynegppsneknnsltssth
SSTDHYNYLPISQDKEMDISSPYKKQKASYSNKSPNKAPIQKSRGSSLKSHLETESQQ
TPYKRRRKATIRNYDYCSACGGRGLFICCEGCPCSPHLSCLEPPLTYPENIPEGSWFC
YTCSIKSHHPFRHPLSIWSQLYDMIDSQNPSQYRLPDDLYHYFHGISRGDTGAYKETE
GEMDTDEFSALPTGSSITNLAYCGYCSKPSMGACWYGCQLCDTFYRKNCKBHAKKG
HDSIGKKGMRVPKNAVVIRTPLYLDTTSNTLMPKYMISGWOFLMGEEPSDELLYFPRL
PYSCLKKYSBOGCIKDFLYAIGIEAKKFNNERKKRELEVIPPDVKSALLPARTHPNLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-"splice branch and acceptor sequence, transtryacaattgraacag" complement(6630.6635)
/gene-"SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene-"SPAC16C9.05"
/note-"SPAC16C9.05, unknown, len: 404, possible zinc finger protein, similarity to SPAC2F7.07c (in embl entry z50142) 39.1% identity in 115 aa overlap; pid:e204619"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="splice donor sequence, complement(6586..6605)
/gene="SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="splice branch and complement(6400..6405)
/gene="SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PLEEANSSPAAONOHITYUDHYHPOVSMTPSLSTNNTATSVPAAYSSAASVVVVOGHA
TTILHHEESSALPPTAAMAKLSPSVLOERLRAAVNQOPLDALKSSSTQTSIPKIOKK
AAKLSSEERNTKWLNKALNDLVSSLSKINESSEGTEFDKROIEMIONLPPLFVFNAR
SVIDKEVPPEQEKSAENOPPSLGINNGNPVMPPPGFQS"
complement(6318.6330)
/gene="spac1609.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /Codon_start=1
/product="unknown"
/product="unknown"
/db_xref="pib:91019816"
/db_xref="pib:91019816"
/translation="MLKTQEIYSSEDEDDMCCPLCMEEIDISDKNFKPCQCGYRVCRF
/KTRINSLATION="MLKTQEIYSSEDEDDMCCPLCMEEIDISDKNFKPCQCGYRVCRF
/KTRINSLATION-"MLKTQAENTONLENINVLKGPEYFGYGKIIKIAINKKAAAN
SANGHYGVYITYQRKEDARAIAAIDGSVSDGRHLRASYGTTKYCTSYLKNQCCPNPS
SANGHYGVYITYQRKEDARAIAAIDGSVSDGRHLRASYGTTKYCTSYLKNQCCPNPS
CMYLHEDGGDSVDSYTKEDLASYLOHTRPLESTKPNVVNGATHSPSBSLFFKTPLLPYTKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note-
           1.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           splice donor
Score 35; DB 48; Length 14071; Pred. No. 2.62e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acceptor sequence, ctaatgtttttag"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gtatgt"
```

CDS

```
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           င္မ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     용
                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    n
N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcgtactaaatgcaggaccctccat 1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaatgactgacatgttgataatactggctccccagcttctgtataaattgctttctgcac 1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAACTGTGGTCATGTTGATAACATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCC 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctgtagccatgcaaaccatttggtaggcaatctcagcttcggcgagctagtttggcttcgg 1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGGAGCTAAAACGAGGTCCCTCGAT 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGTCGCCATGGCGATACTTGCGTAACAAATTCCAGCCTCCTTAGCAAGAACCACCTCTG 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bonfield, J., Burton, J., Connell, M., Copsey, T., Cooper, J., Coulson, A., Craxton, M., Dear, S., Du, Z., Durbin, R., Favello, A., Fulton, L., Graen, P., Hawkins, T., Hiller, L., Jier, M., Jonston, L., Jones, M., Kershaw, J., Kirsten, J., Laister, N., Latreille, P., Lightning, J., Lloyd, C., McMurray, A., Mortimore, B., O'Callaghan, M., Parsons, J., Percy, C., Rifken, L., Roopra, A., Suladen, R., Sulston, J., Thierry-Mieg, J., Thomas, K., Vaudin, M., Vaughan, K., Waterston, R., Watson, A., Weinstock, L., Vaughan, K., Waterston, R., Watson, A., Weinstock, L., Walkinson-Sproat, J. and Wohldman, P.
Coding sequences below the program Genefinder preparation).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Caenorhabditis elegans strain-Bristol N2 Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Caenorhabditis
U23168
                                                                                                                       The 5' cosmid is B0495, 8001 bp overlap;3' cosmid is C06A8, 750 bp overlap. Actual start of this cosmid is at base position 4495 of CELB0228; actual end is at 6105 of CELC06A8
                                                                                                                           overlap.
CELB0228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 (bases 1 to 38946) Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryotae; mitochondrial eukaryotes; eukaryote crown group; Metazoa/Eumycota group; Metazoa/Eumycota group; Metazoa/Eumetazoa, Blateria; Pseudocoelomata; Nematoda; Secernentea; Rhabditia; Rhabditida; Rhabditida; Rhabditina; Rhabditoidea; Rhabditidae; Caenorhabditis.

1 (bases 1 to 38946)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CELB0228
                                                                                   NOTES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequence of C. elegans Unpublished (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94150718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.2 Mb of contiguous nucleotide sequence from chromosome III of C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wilson, R., Ainscough, R., Anderson, K., Baynes, C.,
                                                                                                                                                                                                                             NEIGHBORING COSMID INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Leimbach, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rect Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 38946)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       368 (6466), 32-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                      (21-MAR-1995) Robert Waterston
                                                                                                                                                                                                                                                                                                                                                                     Genome Sequencing Center
Department of Genetics, Washing
St. Louis, MO 63110, USA, and
                                                                                                                                                                                                                                                                                                            cambridge CB10 IRQ, England
e-mail: rw@nematode.wustl.edu and
                                                                                                                                                                                                                                                                                                                               Sanger Centre, Hinxton Hall Cambridge CB10 IRQ, England
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              38946 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        elegans cosmid
                                                                                                                                                                                                                                                                                                                                                                                                                                   by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                       are predicted (P. Green and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cosmid B0228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B0228
                                                                                                                                                                                                                                                                                                                                                                                           Washington University,
                       from computer analysis,
L. Hillier, ms in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                          jes@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Berks,M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                          using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
```

```
/GVIGECGETOL EXPERIMENTAL
/Gb_xref="plD:g726364"
/franslation="mtD:g726364"

RTILOXTKSVESMCLKTKSASSTSIDMFSDCQRATVSQTISTEIASHRRELITSVSRC
ISTQSLERLLKEVEIIDMENITMNVSQKEQLSANLQALTSARVSLLITSVSRC
ISTQSLERLLKEVEIIDMENITMNVSQKEQLSANLGALEQAAFMSLLITSVSRC
ERDERBVXTLKDRMVSFKHSLSVEARASSTSENVSLGMRKADQKSEFTISQKLSPKSE
ERDESERVESKLDQFFFQVMEKMDWSNIELGEKHSTALSANLFRTLAPEQKYCDGILGFWKG
ERDESVGTQIQEIRRAMANSVEASLLITISSNSNFSKNISSSERAYESNLISV
ITSHNLSTIGTSSETTTASISYQDIPEMLAASKLHTISNSSEKKHSENLISV
ITSHNLSTIGTSSETTTASISYQDIPEMLAASKLHTISKNSKEKLKEIREPVIQTVESF
WNTTNDQEKVAYLLNEKIDSISTSANLGISLAPASELSNIL
GKLRAPEMQEETTDLKIRQAQARVVLNVSESMSNTISSSETFSRIPENKKATITNLV
GIITTQOLSTICASSENQTIEMDTEKAMBKIDLVEPVYSNISSNYQALATSSSGSS
IIGKLRAPEMQEETTDLKIRQAQARVVLNVSESMSNTISSSETFSRIPENKKATITNLV
GIITTQOLSTICASSENQTIEMDTAKCILNVISSLUSTITSDASLDMISESQAIFSN
IIGVMASADKEKYGAIICEKLKSIHTLLHTALTRTTESLJSTODQKROQKLSTHEFVKL
STRDVVQAAFRISSESVDHLLTVLEKMDWSIISLVSUSSNSKNLLSVLKTEIRESGGEVVQ
GFWNTAADKEKYGAIICEKLKSIHTLHTALATVISSLUSTITSDASLDMISESQAIFSN
IIGVMASMULTTSSGSGTSSFGCFNNVFELSBARRVLQESNKONLIGVKRESSEELIHG
INSTASSTEKVAIVKEKLETVHQAMKTLAIQMATQSVNSELLIGSEGNLASIKSITLP
TREVISAASUCKASSITSHDLIENTAKCILNVISSLOTISJDSVNSALAEPSERODSI
GKINAPEPQAAYVDQQISEHQTLEVINKUSMSDISJEFKLHQNISSNVVRLADESKYITSNIDKAA
REVYAALEFGIANESVOKALEVLIKVENSDISJEFKLHQNISSNVVLLADSSKYNCDSII
GKLNAPPEPQSAYVDQQISEHQRIENTASHVXIDAMWATLSTBADETLESQKSFDKSIR
SIMASSGVSSEHVQKITLSILKSELSTIVLENDESATULDEPIQSEVQSF
SINSSQEKASJUTGKLNVKYDAMMATEIAYOSLANSNITSSEDRILLESQKSFDKSIR
ESIMASSGVSSEHVQKTLEVLIKSSELSTIVLPAVEYEATYQNIKALSSEPDFNCESILG
KLNAPDPQSAVMDIIMNEQRKLTVVSNIQSAIESVISNDSSLEKLTEVDKSVILKISE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGRTHSHEEYRRHQOPSLMVNTNFDEDDYATIDRVRRSNNREMSMPASPRNVHFVDET
SGPLSRTMNESAFGDRAHLQYRPRAQKGAAGPTRGAPTSSVNQLDEATLDLLRLSTE
PSPVPSRRALPKSASLSSVQOKOPIKTADGQLKIGSVYTWDQNSVDTTTDDERAKDF
LRGDRSSRLSPOSERKNERQIOIRQOSSGPTNRRETELEYEEKROGPPVVRTTVECKL
KMEKIVGADLITVDSCISSAWTVRDTVNYKIKSTIGKKSLILEEIKDGQSKYKITLI
ENGETKMEREASLDVEDFVNKKDYLAEVSKKLLSDLREDSESVSALTHIEVEIVEDVT
NILKTYYIGERADDVLAEEQLRLHYEQTADKTPSPIPLEKVEKIYDDELQKDKIELED
PEKADIHLIKOGRHFEGEGALKRIRRFETEESIEKPTVIRMEPRCAHAFADCDVAKKD
DTSNYTVKIAVPLVHTITFLLKKSKMMRQQKAAGYEMEQEGQRFEDETTLRRIKRYET
EEEEEEKQHVAVIQHVEEVKVATMKTQREVEAEGGQYEMSOGGIHLRGETTFKKRGKHL
DSESSEERTMEREAEGGQYAMQMEGERLLGEKKFRSKGRHYESESESMASWNGGSPT
LVDLVKKESSSIFEATTETANNHSPIVAEVRRPKLKKENTTIGCTISNQKATSANAEL
TTKHYNTEKGSGKFRELGEEQAMMLCGFENQKSSKEEVTGSRQOKNEIKVAFAAGSAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note-"coded for by C. elegans cDNA yk26d12.5; coded for by C. elegans cDNA yk21b9.5; coded for by C. elegans cDiyk16f1.5; coded for by C. elegans cDNA yk16f1.3; coded for by C. elegans cDNA yk16f1.3; coded for by C. elegans cDNA yk16f1.3; coded for by C. elegans cDNA yk26d12.3; coded yk32h8.3; coded for by C. elegans cDNA yk26d12.3; coded for by C. elegans cDNA yk21b9.3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLCKCIANGRGVRGQKKQIQEPTIADDDGRDLPYEVPGSIHIPKPVYNKKLSKSRSSS
VPHVSVPSLVSSSADYKRLSMWETSLNVESDVEPLHTPPLVVGRKLDYIDKEGNNPSC
CRERGTRKPGFRPLRGSGSPPPPDPSTSTKVAVTSASEVKKIKDHKKQLKKEKEKKKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="PID:g726370"
/translation="MNDYEIRDIGSSOKSNNOKISNNSGESAHENGTSENVKTESDD
DSTCSSSLNKLSNRHSESPMNHLSVGGEVAKDLLSSLTIPLPQTVIRTCOSIDIOTPDR
SRNDKTLTSFEYSSCKNLLLTTIIPDPLDLVAAAVGOSTAQALLVAQIGWMVCVCCRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TENTTISTIIFHDADSFAVEGSSKSANSTATYGRFKEMSEENASMYYLOKSESSSSN LSGAETKMKH.QQRGSEARFSFKQVAESCAVMIKNTGVERGSTSSTVAEAATG*
JOIN (5960..14594,15067..18774,19220..21034)
/gene="B0228.3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MDKKQSSSGGGFFTRWFGGSGSNNSQQNLAEDVIDARSERKTAKQREQELLQRSERRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   join(56..502,1135..1583,1735..2017,2219..2342,2390..2842,
2988..3076,3122..3241,3287..3355,3404..3472,3519..5054,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Caenorhabditis elegans"
/strain="Bristol N2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1..38946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /map-"III"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'gene="B0228.4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA
```

Query Match

Best Local Similarity 65.0%;

Matches 67; Conservative

Score 31; DB 25; Pred. No. 6.18e-03 0; Mismatches 3

Length 38946;

Mismatches 36; Indels

0

Gaps

02-MAR-1995

this

SdC

Note:

remainder

of annotations omitted

DEFINITION ACCESSION

HUMRETELAS 180388 bp DNA PRI 23-NOV-1994 Human retinoblastoma susceptibility gene exons 1-27, complete Li1910

cds.

Indels

0;

Gaps

σ

```
Ş
                                             밁
                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEGMENT
SOURCE
ORGANISM
                                                                                                                                                                    Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
REMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33432 catcacttggttttccatatggtgtatctacggcaactgtgactggatccagtaaaatat 33491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33492 ttggatottccaaaccacttcctccaataattccaaccattgac 33534
1410 GACTTAAAAAT 1420
                                                                                       1350
                        954 gtcttaaaaat 964
! |||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                   894 tggtgaaactttgaacttataaccttgatgaagggcaatttgatgacagtcatcaaaa 953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               191 CTGGATCATCCAGGCCTGTTCCACCAATTATTCCAATCTTCAC 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGATGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAA 1409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ഗ
                                                                                                                                                                    in 1.38;
Similarity 70.48;
50; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 of 2 cattle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenBank staff at the National Library of Medicine created thientry [NCBI gibbsq 155276] from the original journal article. This sequence comes from rig. 3.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 1117)
Young, R.B., Hsieh, M.Y., Hudson, J.R.Jr., Richter, H.E. and Scott, M. Expression pattern and partial sequence analysis of a fetal bovine myosin heavy-chain gene
J. Anim. Sci. 72 (4), 903-910 (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S73207S1 1117 bp DNA MAM 02-MAR-19 MHC 67-myosin heavy-chain 67 (exons 31-33, and 40) (cattle, Genomic, 1117 nt, segment 1 of 2).

S73207 9685132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unclassified
                                                                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                              æ
                                                                                                                                                                                                                                                                     /product="myosin heavy-chain 67"
/db_xref="pID:9685134"
/db_xref="pID:9685134"
/translation="KKLAORLADAEHVEAVNAKCASLEKTKORLONEVEDLMLDKKQ
KNEDKYLSEWKOKYEETQAALBASQKESRSLSTELFKYKNAYEESLDQLETLKRENKN
KNLOQEISDLTEQIAEGGKQIHELEKIKKQVEQEKCEIQAALEEAE"
a 243 c 236 g 288 t
                                                                                                                                                                                                                                                                                                                                                                                                   /note="Only first segment of protein sequence is bound; mismatch(70[K-NI]); Description: myosin heavy-chain 67, MHC 67; Method: conceptual translation supplied by author. This sequence comes from Fig. 3. Author-given protein sequence differs from the conceptual translation for reasons explained in citation. Author-given protein sequence is in conflict with the conceptual translation. Acodon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Bos sp."
/note="cattle"
/oin(221..367,455..626,713..837)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "MHC 67"
                                                                                                                                                                  Score 29; DB 34; Length 1117; Pred. No. 8.22e-02; 0; Mismatches 21; Indels
```

CDS	protei	REFERENCE REFERENCE AUTHORS TITLE JOURNAL MEDLINE MEDLINE FEATURES SOURCE		MEDLINE REFERENCE AUTHORS TITLE JOURNAL MEDLINE REFERENCE AUTHORS TITLE	NID KEYWORDS SOURCE ORGANISM REFERENCE AUTHORS TITLE
join(20602196,54245550,3944639561,4192642045,446844706,457994586,568356963,5965159793,6173061807,643054419,6554465441,7024270329,7375373869,7643076486,7688976920,7700177077,7808378279,149998150116,153208153353,156693156838,167390160834,161997162110,162204162367,170372170402,173707173849,174361174410,177005177078) /codon_start-1 /product="retinoblastoma susceptibility protein" /db_xref="pID:g292421" /translation="MPPKTPRKTAATAAAAAEPPAPPPPPPEEDPEQDSGPEDLPLVRLEFEETEEPDFTALCQKLKIPDHVRERAWLTWEKVSSVDGVLGGYIQKKKELWGIC	protein_bind 10361803 /bound_molety="SP1" /evidence=experimental protein_bind 18661872 /bound_molety="ATF" /evidence=experimental /evidence=experimental /evidence=experimental /number=1	6 (bases Toguchida, Yandell,D. Complete g susceptibi Genomics 1 94063891 1 n bind 1	and sequence Science 235 (4794), 1394-1399 (1987) 87149066 4 (sites) 4 (sites) McGee,T.L., Yandell,D.W. and Dryja,T.P. Structure and partial genomic sequence of the human retinoblastoma susceptibility gene Gene 80 (1), 119-128 (1989) 90065771. 5 (sites) Sakai,T., Ohtani,N., McGee,T.L., Robbins,P.D. and Dryja,T.P. Oncogenic germ-line mutations in Sp1 and ATF sites in the human retinoblastoma gene Nature 353 (6339), 83-86 (1991)	Nature 323 (6089), 643-646 (1986) 87039336 2 (sites) Friend,S.H., Horowitz,J.M., Gerber,M.R., Wang,X.F., Bogenmann,E., Li,F.P. and Weinberg,R.A. Deletions of a DAN sequence in retinoblastomas and mesenchymal tumors: organization of the sequence and its encoded protein (published erratum appears in Proc Natl Acad Sci U S A 1988 Apr;85(7);2234] Proc. Natl. Acad. Sci. U.S.A. 84 (24), 9059-9063 (1987) 88097427 3 (sites) Lee,W.H., Bookstein,R., Hong,F., Young,L.J., Shew,J.Y. and Lee,E.Y. Human retinoblastoma susceptibility gene: cloning, identification,	g292420 nuclear protein; recessive oncogene; retinoblastoma gene; retinoblastoma protein; retinoblastoma susceptibility; tumor supressor gene. Homo sapiens DNA. SM Homo sapiens DNA. Eukaryota; Animalia; Chordata; Vertebrata; Mammalia; Theria; Eutheria; Primates; Haplorhini; Catarrhini; Hominidae. E 1 (sites) S Friend, S.H., Bernards, R., Rogelj, S., Weinberg, R.A., Rapaport, J.M., Albert, D.M. and Dryja, T.P. Albert, D.M. and Dryja, T.P. A human DNA segment with properties of the gene that predisposes to retinoblastoma and osteosarcoma
exon intron exon intron exon intron exon	exon intron exon intron	exon intron exon intron exon intron	intron exon intron satellite exon intron exon	intron variation exon intron satellite exon	
65364.65441 /number=11 65442.70241 /number=11 70242.70329 /number=12 70330.7375 /number=12 73753.73869 /number=13 73870.76429 /number=13 76430.76486	6173061807 /number=9 6180864329 /number=9 6433064439 /number=10 6444065363 /number=10	/number=6 45867.56852 /number=6 56853.56963 /number=7 56964.59650 /number=7 59651.59793 /number=8 59794.61729 51730 61867	/number=3 39562.41925 /number=3 41926.42045 /number=4 42046.44667 /number=4 4318.43257 /standard_name 44668.44706 /number=5 44707.45798 /number=5 44707.45866	RVLKRSAEGSNPPK KMNDSKDTSNKEEK 2197.5423 /number=1 2302 /standard_name: /note="BamHI R 5424.5550 /number=2 5551.39445 /number=2 14868.14914 /standard_name: 39446.39561	IFIAAVDLDEMSFII LFSKLERTCELIYLI LFSKLERTCELIYLI MLCVLDYFIKLSPPI LCKEHECNIDEVKNI LFLDHDKTLOTOSII LFLDHDKTLOTOSII SDQPSENLISYFNK SPLEPLIKGENLISYENK GTDLSFPRILIVLNI SPLEPLIKGSKDREK TANAETQATSAFQT LFQHTLQNEYELMRI RVLIKEEEXDSIIVI IPGGNIISPLKSPI

IFIAAVDLDEMSFTETELQKNIEISVHKFFNLLKEIDTSTKVDNAMSRLLKKYDVLFA
LFSKLERTCELIYLTQPSSSISTEINSALVLKVSWITTLLAKGEVLQMEDDLVISFQL
MLCYLDYETKLSPPHLLKEBYKTAVIFINGSPRTPERGQNRSARIAKQLENDTRIIEV
LCKEHECNIDEVKNVYFKNFIPFMNSLGLVTSNGLPEVENLSKRYEEIYLKNKDLDAR
LFLDHDKTLCJDSICSFTQRTPRKSNLDEEVNVIPPHTPYRTVNMTIQOLMMILMSA
SDQPSENLISYFNNCTVUNFKSILKRYKDIGYIFKKFAKAVGGGCVEGIGSQRYKLGV
RLYYRVMESMLKSEEERLSIONFSKLLNDNIFHMSLLACALEVVMATYSRSTSQNLDS
GTDLSFFWILNVLHLKAFDFYKVIESFIRAEGHLFREMIKHLERCEHTINESLAWLSD
SPLFDLIKQSKDREGPTDHLESACPLNLFYLQNHTADADMYLSPVRSPKKKGSTTRVNS
TANAETQATGSAFQTOKPLKSTSLSLFYKKVKRLAYLRHTLCERLLSEHPELEHIIMT
LFQHYLQNBYELMRDRHLDOIMMCSNYGICKVKNIDLKFKIUTAXKLLPHAVQETFR
RVLIKEEEXDSIIVFYNSVFMQRLKTNILQYASTRPPTLSPIPHIPRSPYKFPSSPLR
IPGGNIYISPLKSFYKISECLFTFTMTPRSRILVSIGESFGTSKKFQXINQMYCNSD
RVLKRSAEGSNPFKPLKKKLRFDIEGSDEADGSKHLPGESKFQQKLAEMTSTRTRMQKQ
RWLKRSAEGSNPFKPLKKKLRFDIEGSDEADGSKHLPGESKFQQKLAEMTSTRTRMQKQ MNDSMDTSNKEEK" 197..5423

/number=2 5551..39445 /standard_name="Restriction Fragment Length Polymorphism"
/note="BamHI RFLP"
/124..5550 number=1

7number=2 .4868..14914 "standard_name="microsatellite RBi2 (AFM058xd6)" .9446..39561 number=4 3218..43257 number=3 1926..42045 number=3 9562..41925 2046..44667 number-4

/standard_name="microsatellite RBi4" 14668..44706 7number=5 14707..45798 7number=5 7number=5

number=6
45867.56852
/number=6
56853.56963
/number=7
56964.59650
/number=7
19061.59793
/number=8
59794.61729
/number=8
61730.61807
/number=9
61808.64329

```
RESULT
LOCUS
                                                                        Сb
                                                                                                       밁
                                                                                                                                   СЬ
                                                                                                                                                                   밁
                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                               Note: remainder of annotations omitted.
                                                                                                                                                                                                                                                     Query Match 1.3%; Score 29; DB 60; Le Best Local Similarity 62.9%; Pred. No. 8.22e-02; Matches 83; Conservative 0; Mismatches 48;
                                                                                                                                                7323 ttgaattactaa-atcaaaagctatgaacatttttatgactcttgatgattattgctaga 7381
                                                                                                                                                                                                           7263 cttgitaaataaattaatgaatgaatctotgattatttattagaataaattottataag 7322
                                                                                                                                                                                                                                                                                                                                                                                                                            exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exon
                                                                                                                                                                                                                                                                                                                                                                                               intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                         intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                satellite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        intror
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        intron
                                                                                                                             TAGAGTTCCCAGCACCAAAGGACGTCCGTATTTTTAAGTCTTTTGATGCATTTTACCAAA 1390
                                                                                                                                                                                        CTTTATATATATTCTTTGTATGCATCTCTGATATGGTTTTAAAGAGAAATTGCTAGATG 1450
                                                                                                     ttacacttcaga 7393
             HS117E6F
                                                                                                                                                                                                                                                                                                                                                /number=23
162368..170371
/number=23
170372..170402
/number=24
                                                                                                                                                                                                                                                                                                                                                                                                                                                        /number-22
162111..16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /number=20
15680=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77078..78082
/number=16
78083..78279
/number=17
78280..149997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /number=14
76880
                                                                                                                                                                                                                                                                                                                                                                                                                                            number=22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .61997..162110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      number-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard_name="microsatellite RB1.20" (0730..160834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'number=20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                150117..153207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_type=tandem
149998..150116
/number=18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /standard_name="Variable Number Tandem Repeats (VNTR)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'Standdard_neme "Restriction Fragment Length Polymorphism"
/note="Xbal ARELP"
102921 . 102959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60835..161996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56693..156838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      number=19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  53208..153353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  number-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'standard_name-"microsatellite RB117"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    number=17
                                                                                                                                                                                                                                                                                                                                                                                                                            62204..162367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         number-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53354..156692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      number-
             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..77077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..76920
er=15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .77000
                                                                                                                                                                                                                                                                                                                                                                                                                                                        162203
          å
            DNA
                                                                                                                                                                                                                                                                                  Length 180388;
          PRI
                                                                                                                                                                                                                                                     Indels 1;
                                                                                                                                                                                                                                                     Gaps
                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
JOURNAL
     BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
ACCESSION
NID
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
JOURNAL
MEDLINE
COMMENT
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                              MacDonald, M., Huckle, E., Wilkinson, P. and Micklem, G. Direct Submission
Submitted (16-OCT-1995) to the EMBL/GenBank/DDBJ databases. The Sanger Centre, Hinxton, Cambridgeshire, CB10 1RQ, England. E-mail contact: humpub@sanger.ac.uk
2 (bases 1 to 127)
Cross, S.H., Charlton, J.A., Nan, X. and Bird, A.P.
Purification of CpG islands using a methylated DNA binding column Nature Genet. 6 (3), 236-244 (1994)
                                                                                                                                                                                                                                                                                                                                                                                                    HS117E6R
H.sapiens CpG I
Z58951
g1030864
CpG 1sland.
                                                                                                                                                                                                                                                                                                                           Homo sapiens
Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;
Vertebrata; Mammalla; Eutheria; Primates; Catarrhini; Ho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l (bases 1 to 127)
MacDonald,M., Huckle,E., Wilkinson,P. and Micklem,G.
Direct Submission
Submitted (16-CCT-1995) to the EMBL/GenBank/DDBJ databases. The
Sanger Centre, Hinxton, Cambridgeshire, CB10 1RQ, England. E-mail
contact: humpub@sanger.ac.uk
2 (bases 1 to 127)
CTOSS,S.H., Charlton,J.A., Nan,X. and Bird,A.P.
Purification of CpG islands using a methylated DNA binding column
Nature Genet. 6 (3), 236-244 (1994)
94282070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 1.2%;
Similarity 73.6%;
39; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vector: pGEM-52f(-).
    Location/Qualifiers
    1..127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           H.sapiens CpG
Z58950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;
Euraryotae; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                            (bases 1 to 127)
     30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52
                                                                                                                                          PGEM-52f(-)
 /tissue_type="blood"
/clone_lib="CGI-1"
/clone="117e6"
a 14 c 29 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/dev_stage="adult"
/sex="male"
/tissue_type="blood"
/clone=lib="CGI-1"
/clone="117e6"
28 c 14 g 31
                                                              /organism="Homo sapiens"
/dev_stage="adult"
/sex="male"
                                                                                                                          ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                               127 bp DNA
DNA, clone 117e6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     clone 117e6, forward read cpg117e6.ftla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 27; DB 50;
Pred. No. 9.78e-01
0; Mismatches 1
29 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14 g
 53
                                                                                                                                                                                                                                                                                                                                                                                                                                               reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ш
 rt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rt
```

PRI 19-OCT-1995 read cpg117e6.rtla .

Hominidae;

Length 127; 2 others

Indels

0,

Gaps

0

```
REFERENCE
AUTHORS
TITLE
JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                         RESULT
LOCUS
                                                                                                                                ç
                                                                                                                                                           밁
                                                                                                                                                                                                                                               BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                             DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                             COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1409
                                                                                                                                                                                                                                                                                                                                                                                                                                                  tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MTCPATP9
C.parapsi
X74411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Candida parapsilosis
Mitochondrion Candida parapsilosis
Eukaryotae; mitochondrial eukaryotes; Metazoa/Eumycota group;
Eumycota; Ascomycotina; Hemiascomycetes; Saccharomycetales;
g473029
ATP synthase subunit 9; ATPase 9; transfer RNA-Asn;
transfer RNA-Ile; trnI gene; trnN gene.
                                             C.parapsilosis
X75390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (02-AUG-1993) to the Nosek, Institut Curie-Biologie, 91405 Orsay, FRANCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g396469
atp 9 gene; ATP synthase subunit
transfer RNA-Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomycetaceae;
1 (bases 1 to 675)
                                                                           MICPATP9
                                                                                                                                                                                     h 1.28;
Similarity 74.58;
41; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mitochondrial transfer RNA genes
Gene 142 (2), 307-308 (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nosek, J. and Fukuhara, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nosek, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nosek, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    parapsilosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 675)
                                                                                                                                                                                                                                                              223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.2%;
larity 76.5%;
Conservative
                                                                                                                                                                                                                                                                                        /codon_start=1
/transl_table=4
/product="APP synthase"
/db_xref="PID:g396470"
/translation="MOTALAAKYIGASIATLGLGGAAIGIALVEVALINGTSRNPSLR
STLFPQAILGFALSEACGLFCLMISFLLLYAV"
485..555
                                                                                                                                                                                                                                                                                                                                                                                                                   /product="transfer 117..347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1..675
                                                                                                                                                                                                                                                           /product="transfer RNA-Asn"
70 c 83 g 299 t
                                                                                                                                                                                                                                                                                                                                                                                                         /gene="atp9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /mitochondrion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                        note="subunit 9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism-"Candida
                                                           675
s mt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 675)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     675 bp DNA mitochondrial
                                                           ATP9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mitosporic Saccharomycetaceae; Candida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
Pred.
0; M
                                                                                                                                                                                     Score 27; DB 45;
Pred. No. 9.78e-01;
0; Mismatches 14
                                                         and tRNA genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NO :
                                                                                                                                                                                                                                                                                                                                                                                                                                     RNA-Ile*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           parapsilosis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 50;
9.78e-01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ databases., Centre Universitaire, Batime
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ō,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATP
                                                                                                                                                                                       14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 127;
                                                                                                                                                                                                                Length 675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  yeast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLN
P synthase
                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Candida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-JUL-1994
subunit 9.
                                                                           24-AUG-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 parapsilosis
                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
REFERENCE
AUTHORS
                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                       KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                            RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                    ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                FEATURES
                                                                                                                                                                                                                                                                                                                   NID
                                                                                                                                                                                                                                                                                                                                DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                             JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                    1542 TTATTATTATAACTATCATTATTAAACACCCTTCTTTATATATATATTCTTTGTAT 1488
                                                                                                                                                                                                                                                                                                                                                                                                                                   ATLUEAP
A.thaliana
X63444
                                                                        Leucine aminopeptidase from Arabidopsis thaliana. evidence for a phylogenetically conserved enzyme turnover in higher plants
                                                                                                              Submitted (06-DEC-1991) to the EMBL/GenBank/DDBJ databases. D. Bartling, Lehrstuhl fuer Pflanzenphysiologie, Ruhr-Universitaet Bochum, Postfach 10 21 48, 4630 Bochum 1, FRG 2 (bases 1 to 1773)

Bartling, D. and Weiler, E.W.
                                                                                                                                                                                                                Eukaryotae; mitochondrial eukaryotes; Chlorophyta/Embryophyta
group; Charophyta/Embryophyta group; Embryophyta; Magnoliophyta;
Magnoliopsida; Dilleniidae; Capparales; Brassicaceae; Arabidopsis
1 (bases 1 to 1773)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Submitted (02-NOV-1993) to the
Nosek, Institut Curie Biologie,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Candida parapsilosis.
Candida parapsilosis
Eukaryotae; mitochondrial eukaryotes; Eumycota; Ascomycotina;
                                                                                                                                                                                                                                                                        Arabidopsis thaliana
                                                                                                                                                                                                                                                                                       aminopeptidase; exopeptidase;
thale cress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nosek, J. and Fukuhara, H. Mitochondrial transfer R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccharomycetaceae; Candida.
1 (bases 1 to 675)
                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                    Bartling, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nosek, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hemiascomycetes; Saccharomycetales; Saccharomycetaceae; mitosporic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          h 1.2%;
Similarity 74.5%;
41; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 675)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Orsay, FRANCE
                                                           Blochem. 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /transl_table=12
/product="ATP synthetase subunit 9"
/db_xref="pID:9473030"
/translation-"MQIALAAKYIGASIATLGLGGAAIGIALVEVALINGTSRNPSLR
STLEPQALIGFALSEACGLFCLMISFLLLYAV"
485..555
                   Location/Qualifiers
1..1773
  /organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="transfer RNA-Asn"
70 c 83 g 299 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="SR23"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'gene-"trnN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'gene="ATP9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'gene="trnI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note-"pid:g473030"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'product≖"transfer RNA-Ileu'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'organism-"Candida parapsilosis"
                                                                                                                                                                                                                                                                                                                                               mRNA
                                                                                                                                                                                                                                                                                                                                             1773 bp
                                                                                                                                                                                                                                                                                                                                             leucine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 27; DB 44;
Pred. No. 9.78e-01
0; Mismatches 1
                                                         (1), 425-431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      genes of the
                                                                                                                                                                                                                                                                                                                                         PLN
aminopeptidase.
                                                                                                                                                                                                                                                                                                    leucine aminopeptidase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Centre Universitaire,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      yeast Candida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         675;
                                                                                    of protein
                                                                                                                                                                                                                                                                                                                                                            10-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     parapsilosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bases. J.
Batiment 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polyA_signal
polyA_signal
polyA_site
polyA_site
BASE COUNT
48:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NID
KEYWORDS
SEGMENT
RESULT
                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
MEDLINE
REMARK
                                                                                                                                          Query Match
Best Local Similarity
Matches 46; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 1.2%;
Best Local Similarity 82.9%;
Matches 34; Conservative
                                                                               1156 attittaagactittagtacataitgacaaactgcctitcc-aaataitgtaccaatit 1213
                                                         1420 ATTTTTAAGTCTTTTGATGCATTTTACCAAATTGCCCTCCAGAATTACTGTACCAATTT 1362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
13
                                                                                                                                                                                                                                                                                                                            GenBank staff at the National Library of Medicine created this entry [NCBI glabsq 141308] from the original journal article. This sequence comes from Fig. 2.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                 gene
Biochim. Biophys. Acta 1216 (3), 385-394
94092730
GenBank staff at the National Library of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 2126)
Braun, A., Kofler, A., Morawietz, S. and Cleve, H.
Sequence and organization of the human vitamin D-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S67474S5 2126 bp DNA PRI 17-FEB-1994 (GC*IS)=vitamin D-binding protein/group specific component [human, peripheral blood leukocytes, Genomic, 2126 nt, segment 5 of 9]. $67479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g455965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human peripheral blood leukocytes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        483 a
                                                                                                                                          1.2%;
larity 78.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /COCOD_STARTE]
//COCOD_STARTE]
//COCOD_STARTE]
//DOCOUCT="leucine aminopeptidase"
//b_xref="plu:gi6394"
//translation="MAHTLGLTOPNSTEPHKISFTAKEIDVIEWKGDILVVGVTEKDL
AKGONSKENPILSKVDAHLSGILAQVSSEEDFTGRPGOSTVLRLPGLGSKRIALIGI
GGSVSSWAAFHSLGEAVATVSKASQSTSAATULASSVSDESKLSSVSALAGGIVGGIF
EDGRYKSESKKPSLKAVDIIGFGTGAEVEKKLKYAEDVSYGVIFGRELINSPANVLTP
AVLAEEAAKVAST'SDVFTANILNEEQCKELKKGSYLAVAASANPHFHIHLVYKPPN
AVLAEEAAKVAST'SDVFTANILNEEQCKELKKGSYLAVAASANLOEDKIRPG
GSVTSTKLALUGKGLTEDSGGYNIKTGPGGSIELMKFDDGGSAAVLGAAKAIGEIKPG
VEVHFIVAACENMISGTGMRPGDVITASNGKTIEVNUTDAEGRLTLADALVYACNGGV
DKIVDLATLTGACVIALCTSMAGIYTPSDELAKEVIAASERSGEKLMRMPLEESYWEM
MKSGVADMVNTGGRAGGSITAALFLKGFVSEKVQWMHIDMAGPVWNEKKKSGTGFGVA
MKSGVADMVNTGGRAGGSITAALFLKGFVSEKVQWMHIDMAGPVWNEKKKSGTGFGVA
TIVEWVQKNSSS"
                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1661..1666
1734..1739
1754
                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/note="human"
356 c 345 g 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /EC_number="3.4.11.1"
/EC_number="3.4.11.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain="Landsberg erecta"
/dev_Stage="vegetative"
/tissue_type="lasf"
/clone_lib="cDNA in lambda ZAPII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="PM25"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     337 c
                                                                                                                                        Score 28; DB 62; Length 2126;
Pred. No. 2.88e-01;
0; Mismatches 12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 27; DB 42; Length 1773; Pred. No. 9.78e-01; 0; Mismatches 7; Indels
                                                                                                                                                                                                                                               345 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                 730 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
SOURCE
ORGANISM
밁
                             δÃ
                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
MEDLINE
FEATURES
                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                              Query Match
Best Local Similarity 72.1%;
Matches 44; Conservative
                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1519 TAATAATGATAGTTATAATAATAAATAATTGAAACAATCTGAA 1561
                             340 t 340
                                                DDISASIA 2145 bp
D. discoideum GTP-bind
M34456
g167874
GTP-binding protein.
                                                                                                                                                                                                                                                                                                                                     g160418
expression pattern; gene regulation.
Plasmodium falciparum bloodstage cDNA to mRNA.
Plasmodium falciparum
Eukaryota; Animalia; Protozoa; Apicomplexa; Sporozoasida;
Coccidiasina; Eucoccidiida; Haemosporina; Plasmodiidae.
1 (bases 1 to 3030)
Olafsson, P. and Certa, U.
                                                                                                                                                                                                                                                                                       Unpublished (1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FFAMRNA 3030 bp mRNA Plasmodium falciparum unidentified mRNA L12043
                                                                                                                                                                                                                                                                                                The expression pattern of Plasmodium falciparum suggests a mode of gene regulation during bloodstage development
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          l (bases 1 to 2145)
Saxe,S.A. and Kimmel,A.R.
SAS1 and SAS2, GTP-binding protein genes in Dictyostelium
discoldeum with sequence similarities to essential genes in
Saccharomyces cerevisiae
Mol. Cell. Biol. 10, 2367-2378 (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             D.discoideum, cDNA to mRNA.
Dictyostelium discoideum
Eukaryota; Fungi; Myxomycota; Acrasiomycetes; Dictyosteliales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  h 1.2%;
Similarity 81.4%;
35; Conservative
                                                                                                                                                                                      1122
                                                                                                                                                                                    ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Grp-binding protein (SAS1)"
/codon_start=1
/codon_start=1
/db_xref="FID:9167875"
/translation="MTSPATNKPAAYDFLVKLLIGDSGVGKSCLLLRFSDGSFTPSF
/ATIGIDFKIRTIELEGKRIKLOIWDTAGQERERTITTAYYRGAMGILLVYDVTDEKS
FGSIRNWIRUEGDHASDSVNKHLIGNCOMPEKKVUDSSFKSLADEYGIKFLETSAK
NSVNVEEAFIGLAKDIKKRMIDTPNDPDHTICITPNNKKNTCC"
a 249 c 238 g 727 t 2 others
                                                                                                                                                                                /organism="Plasmodium falciparum"
/dev_stage="bloodstage"
/sequenced_mol="cDNA to mRNA"
1 269 c 397 g 1242 t
                                                                                                                                                                                                                                                          Location/Qualifiers
1..3030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Dictyostelium discoideum" 1095..1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
1..2145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2145 bp mRNA
GTP-binding protein (SAS1) gene,
                                                                                             Score 27; DB 30; Le
Pred. No. 9.78e-01;
0; Mismatches 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 27; DB 43; Lo
Pred. No. 9.78e-01;
0; Mismatches 8;
                                                                                                                              Length 3030;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 2145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANI
                                                                                             Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-MAR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

Ş

1787 T 1787

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                     Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  prim_transcript
                                                                                                                                                                                                                                                prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (05-NOV-1990) to the EMBL/GenBank/DDBJ databases. C.
Majewski, RUHR UNIVERSITAET BOCHUM, LEHRSTUHL F BIOCHEMIE DER
PFLANZEN, RUHR UNIVERSITAET, POSTFACH 102148, 4630 BOCHUM 1
2 (bases 1 to 5550)
Majewski.C. and Trebst.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R. rubrum
X55387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         petB gene; petC gene; l
Rhodospirillum rubrum.
Rhodospirillum rubrum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eubacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g46382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Majewski,C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cytochrome b; cytochrome bc-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RRCYTECL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pet genes of Rhodospirillum rubrum: cloning genes for the cytochrome bc1-complex .Gen. Genet. 224 (3), 373-382 (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1250..1253

c <1261..>1812

/gene="petA"

<1261..>1812

/gene="petA"

1261..1812
/Transl_table=11
/Transl_table=11
/product="cytochrome b"
/product="cytochrome b"
/db_xref="piD:946385"
/db_xref="piD:946385"
/translation="MYTPPRWNNKALKWFDERLPVLTVAHKELVVYPAPRNLNYFWNF
/translation="MYTPPRWNNKALKWFDERLPVLTVAHKELVVYPAPRNLNYFWNF
GSLAGIAMIIMIATGIFLAMSYTAHVDHAFDSVERIMRDVNYGWLMRYMHANGASMFF
GSLAGIAMIIMIATGIFLAMSYTAHVDHAFDSVERIMRDVNYGWLMRYMHANGASMFF
IVVYVHMFRGLYYGSYKPPREVLAWALGIVILLAMATARMSYVITTENVFFTWAGATVYKT
                                                                                                                                                                                                                                                                                                               /transl_table=11
/product="Rieske FeS protein"
/db_xref="PID:g46384"
/transl_tion="MARAEHTASTPGGESSRRDFLIYGTTAVGAVGVALAVWPFIDEM
/translation="MARAEHTASTPGGESSRRDFLIYGTTAVGAVGVALAVWPFIDEM
NPAADTLALASTEVDVSAIAEGQAITVTWRGKPVFVRHRTQKEIVVARAVDPASLRDP
OTDEARYQQAQWLVMVGVCTHLGCIPLGQKAGDPKGDFDGWFCPCHGSHYDSAGRIRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RCQQDQAGFVGEPRDEIRPGRMTHKSGAFEIVHSGAA" <3...>770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /transl_table=11
/db_xref="pID:946383"
/db_xref="pID:946383"
/db_xref="pID:946383"
/translation="MLDAPAGRWPDPDAGEGALRRLLDGEGKDLVIDRALLRWAAERG
/translation="MLDAPAGRWPDPDAGEGALACGLKGPAVGEAWRPCADAGLR
KGPPPRAERTAAWRALIETALGWTAPTFPLGGRADALACGLKGPAVGEAWRPCADAGLAE
AAARPGGTRCWPGSPLGGTGPPTNRPPRSRAWNRYRSDRPSPGGVLRPACGMAQGLAE
HQGGGDGDVERAHAGNHRNPDAQVGALVDLGGNARALSAQQQHVVGLKVSFGMKRARL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="ORF1"
3..770
                                                                                                                                                                                                                                                                                              GPAPLNLPVPPYAFTDDTTVLIG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="Partially digested Sau3A fragments of genomic
Rs. rubrum DNA in EMBL3."
                                                                                                                                                                                                     /gene-"petB"
1826..3043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Rhodospirillum rubrum"
/strain="FR1"
                                                                                                                                                                           /gene="petB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="petA"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'gene-"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="ORF1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cytochrome bc1-complex genes (petA,
                                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'clone="EMBL-pet 11.1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Proteobacteria; alpha subdivision;
to 5500)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORF1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rieske Fe-S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complex; cytochrome c1; petA gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL-pet 4.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  petB, petC).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhodospirillum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-FEB-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           얁
```

```
밁
                                        Ş
                                                                                밁
                                                                                                                      Ş
                                                                                                                                                                В
                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                      Query Match
Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA
  4387
                                                                                                                                                                  4267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prim_transcript <4069..>4785
/gene="ORF2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RBS
CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prim_transcript
                                          386
                                                                                                                        326
atcgccgatcagttcatcgaccgcacc 4413
                                                                                                                      atcttgtcggtctccgccgtcggttctctggccgaggacctgccgccgggcaccttcgtc 4386
                                          GTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGAGGAGATTCAGCCCGGCGATATTGTC
                                                                                                                                                                                                        Similarity
87; Conse
                                                                                                                                                                                                                                                                                                           926
                                                                                                                                                                                                      1.2%;
larity 59.2%;
Conservative
                                                                                                                                                                                                                                                                                                           þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4983..4986
.<4997..>550
/gene="ORF3"
<4997..>5550
                                                                                                                                                                                                                                                                                                     /COGOD_start=1
//trans!_table=11
//diams_table=11
//diams_table=11
//diams_table=11
//translation="MNVKGTPTRTIWPAREGAVWIIDOTRLPHEFVTQRLNDLGAVA
//translation="MNVKGTPTRTIWPAREGECTRACQTLLATRPTAVNLRWAIEA
MAESLAAVPPDQRAQAAWAKAGAICDEDVALNEAIGDHGLGIIKDLARTKGVEKGGEG
PINILTHGCNAGWLATVDWARFWERL"
a 1816 c 1767 g 1041 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="cytochrome <3070..>3888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /gene="petC"
3070..3142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=1
/trans1_table=11
/db_xref="PID:946387"
/tabslation="MSEAYROPVLGVIGGSGVYDIDGLEGARWOTVESPFGDVSDQIL
/translation="MSEAYROPVLGVIGGSGVYDIDGLEGARWOTVESPFGDVSDQIL
RGTLDGLEMAFLPRHGRGHVLAPSDVNYRANIDALKRAGVTEILSVSAVGSLAEDLPP
GTFVLADQFIDRTFAAEKSFFRQGSGRPCQHGPSGQRLAGRSRRRGSGRSGHSPFGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="petC"
/product="cytochrome
4053..4056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="cytochrome c1"
/broduct="cytochrome c1"
/db_xref="pID:946386"
/db_xref="pID:946386"
/translation="MTTIVKRALVAAGMVLAIGGAAQANEGGVSLHKODWSWKGIFGR
/translation="MTTIVKRALVAYRNLSALGFSEDGIKELAAEKEFPAGFDDNG
YDQPOLQRGFQVFHBVSTCHGMKRVAYRNLSALGFSEDGIKELAAEKEFPAGFDDNG
DMFTRPGTPADHIPSDFANDKAAAAANGGAAPPDLSLLAKARPGGPNYIYSLLEGYAS
DSPGEPAEMMVKQQQEKGLEVAFNEAKYFNDYFPGHAISMPPPLMDDLITYEDGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NNPLGIDAKGREDTIPEHPYTTVKDARGLGIFLMVFCGEVFFARNFFGERDNYIPANP
MVTPTHIVREWYFLRYAILRAVRDKLGGVLAMFGAILILEVLRWLDTSKVRSATFRR
VFKGEFWVFLADCLLLGYLGAMPAEBRYVTITQLATIYYFLHFLVITRLVGWFEKRKR
LPYSISSRVTTQA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="ORF3"
4997..>5550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="petC"
3143..3885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="petB"
3056..3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <4069..>4785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRSRPRQRRGGGSRAAAKRR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HLSVHGGAAVLDPGRKQSLSAMGLPRHRHDQHARGQAGPRSRDRLLHRGHGHRFRLLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="ORF3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene-"petC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KDQMAQDVVAYLNWAAEPELDARKSLGLKVLLFLGVLTAMLLALKLAIWRDVKH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
/transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'gene="ORF2"
                                                                                                                                                                                                      Score 27;
Pred. No.
0; Misma
                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                       DB 22; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ជ្
                                                                                                                                                                                                                                          Length 5550;
                                                                                                                                                                                                        Indels
                                                                                                                                                                                                      0;
                                                                                                                                                                                                    Gaps
                                        445
                                                                                                                                                                                                      0
```

οy Search completed: Mon Feb 10 22:51:01 1997 Job time : 1616 secs.

. .

11111111111111111111111111111111111111	Statistics: Pred. No Score gr and is d. Result NO. Score	Post-processi Database:	quence mp: table STD	scription	
	Mean . is the eater terived erived a Query	ing: Minimum Listing n-geness 1:par 14:pa 19:pa	TABLE Gap 6 Dbase	no no	
2784 16 2763 19 2763 15 1047 2 1047 2 91 9 91 9 204 1 204 1 204 1 114 12 114 12 114 12 114 12 114 12 114 12 114 12 114 12 114 12	.967; number n or eq analys	Match first first eq25 t1 2:1 t8 9:1 rt14 1	s 0; de 0 a	2.1D John F. Co ht (c) 1993, 199 Distribution ri - n.a. database Mon Feb 10 22:51 t generated. t generated. t generated. t generated.	
Q99202 915167 Q92813 Q10572 Q10572 Q115746 Q51746 Q51746 Q51746 Q51746 Q51746 Q70469 Q70469 Q70469 Q70469 Q70469 Q70465	iance 6 results to the of the SUMMARI	1 0% E 45 summaries E 45 summaries Fart2 3:part3 4: Fart9 10:part10 Figart15 16:par Figart20 21:par	AATTCCGCTCCGCACTGCT TTAAGGCGAGGCGTGACGA fault Query 0 Query 0	**************************************	
Pseudomonas putida me 1.22e-267 Human MTASe. 6.16e-228 Human Natriuretic Pep 5.36e-27 Human Natriuretic Pep 1.15e-26 Oligonucleotide probe 2.85e-08 Oligonucleotide probe 2.86e-08 Base substituted E.co 9.08e-08 Generic DNA sequence 2.35e-04 Human Ndr serine/thre 7.88e-05 Generic DNA sequence 5.82e-03	22; scale 1.483 redicted by chance to core of the result be tal score distribution Description	ies 13 4:part4 5:part5 6:part6 7:part7 13 11:part11 12:part12 13:part13 6:part16 17:part17 18:part18 1:part21 22:part22	GCTAAAAAAAAAAAGCGGAATTC 2269 CGATTTTTTTTTTTTTCGCCTTAAG Ses x 2	omputing Research Unit. iversity of Edinburgh, U.K. elliGenetics, Inc. ing Smith-Waterman algorithm MasPar time 223.13 Seconds 886.969 Million cell updates/sec	(MA.)

밁

			•			
!	δ δ	S B M M	S G G G G G G G G G G G G G G G G G G G	THE SECOND	O	00000000000000
)	2330 993	Query Ma Best Loc Matches 5 2270	WEI: 95- Selection mammalian Discloss antibodi sequence	SSULT Q992 Q992 Q992 Q7-M 07-M Enzyu Chem Pseu Key CKS	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	18 19 19 19 19 19 19 19 19 19 19 19 19 19
	agaaaa AGAAAA	Match Local Sim les 492; 70 agaata 33 AGAATA	w05317908-Al. w0	LY 1 099202 standard; 099202; 099202; 07-MAR-1996 (fi Pseudomonas puti Enzyme; MTAase; chemotherapy; ca Pseudomonas puti Key CDS	4 4 A 4 A B B 4 A B B 4 A B B A A B B B A B B B B	
	igaagaca GAAGACA	20.6%; imilarity 97.8%; 2; Conservative tatggcccagttttctg TATGGCCCAGTTTTCTG	108-A1	(fi (fi ;e; ca outi		
	attet ATTCI	20 y 97 ervat agttt 	Jifornii 176413 176413 11FORNII 11 1: 11 1: 11 1: 12 1: 13 1: 14 1: 15 1: 16 1: 17 1: 18 2: 18 2: 18 3: 18 3: 18 3: 18 4: 18 4	DNA; rst en da met L-Met- ncer t da. Locati	1044 1259 1419 1633 1633 1633 19307	114 114 114 114 114 114 114 114 114 114
	aatt AATT	ive ive tctg	tarvati tumour ils ; 46pp; be gen oryleen for th 781 A;	AL A		12 12 12 12 12 12 12 12 13 13
	ccagtcatttt CCAGTCATTTT	Score 467; Pred. No. 1; Misma ttttattaccaa ttll	ation of our celli our celli pp; Engli pp; Engli pgenerate generate yener, while hase. The the dett	ALIGNMENTS DNA; 2784 BP. rst entry) da methylihioadenosine-pi L-Met-L-deamino-gamma-me ncer therapy; methionine da. Location/Qualifiers 12763	074410 074410 0212840 0212840 023028 014664 014664 081066 0709258 0709258 0709258 0709258 0709258	Q70468 Q70466 Q70467 Q70467 Q70467 Q70467 Q70471 Q70471 Q70470 Q7
	agaaaagaagacattctaattccagtcattttgggaattcctgcttaacttgaaaaaat 	ch 20.6%; Score 467; DB 16; Length 2784; (1 Similarity 97.8%; Pred. No. 1.22e-267; 492; Conservative 1; Mismatches 6; Indels 4; Ga igaatatggcccagttttctgttttattaccaagacattaaagtagcatggcccagg	methyl:thio:adenosine s - used in chemotherapy of ish. if from this sequence encoding th are then used to generate produced antibodies may be action of MTase. S C; 598 G; 804 T;	ALIGNMENTS 2784 BP. thylthioadenosine-phosphorylase DNAL-deamino-gamma-mercaptomethane-lyase; therapy; methionine starvation; ss. ion/Qualifiers f:	Sequence encoding new Lipid transfer protei Variable region of la Clone W264 encoding c Tomato cellulase gene Insect diuretic hormo Human ara-4 protein c Porcine zona pellucid Gene encoding plant e LeEF-1 genomic clone Shuttle vector pAdDel	Generic DNA sequence Generic DNA sequence Generic DNA sequence TSAR-9 library genera TSAR-9 library genera Generic DNA sequence DC43 TSAR library gen MS-associated retrovi
	aaat 2389 AAAT 1052	Gaps 3; cagg 2329 CaGG 992	ts reference of diegraphy		σ	1.65e-02 4.63e-02 4.63e-02 1.65e-02 1.65e-02 1.7e-01 3.47e-01 3.47e-01 1.28e-01 1.28e-01 1.28e-01 1.28e-01 1.28e-01 1.28e-01 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00 2.42e+00

```
RESULT
15 15167;

AC T15167;

DT 29-JUN-1996 (first entry)

DE Methylthicadenosine-phosphorylase gene.

KW Humand, methylthicadenosine-phosphorylase; chromosome walking;

KW 4-ntefferon-alpha; CDK41; tumour suppressor; chromosome-9p21;

KW cyclin-dependent kinase-4-inhibitor; probe; primer; mutation;

KW non-small cell lung carcinoma; cancer; gene therapy; antisense;

KW niboxyme; antibody; imaging; ss.

OS Homo sapiens. Location/Qualifiers

FT (*tag- b 254..421

FT /*tag- c -16.5

FT /*tag- c -16.720
           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
Privage f 1

Nob528169-Al.

Privage 1995

12-APR-1995; U04655.

PR 14-APR-1994; US-227800.

PR 14-APR-1994; US-227800.

PR 14-APR-1994; US-227800.

PR 14-APR-1994; US-227800.

PR (REGC) UNIV CALLFORNIA.

PR 14-APR-1994; US-227800.

PR (REGC) UNIV CALLFORNIA.

PR 14-APR-1994; US-227800.

PR 14-APR-194; US-227800.

PR 14-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttaaaaatacggacgtacnnnnr 2768
||||||||||||||||| :
TTAAAAATACGGACGTCCTTTGG 1435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           angacattgtgtgtat-agagactcctcaatgatttagacaacttcaaaaatacagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccccaccattctctctccccctattaaatttgcaacaataaagggtggagggtaatctc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgcgactgtaaattggtacagtatttctggagggcaatttggtaaaatgcatcaaaagac 2745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGACATTGTGTGTATTAGAGACTCCTGAATGATTTAGACAACTTCAAAATACAGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 964..1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721..963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2565
```

```
RESULT RESULT FIRST PRESULT FIRST PRESULT FIRST 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 49
          wo951823-A.
06-JUL-1995.
106-JUL-1995.
22-DEC-1994: U14920.
22-DEC-1994: US-176855.
29-DEC-1994: US-176855.
(CIBA) CIBA GEIGY CORP.
(REGC) UNIV CALIFORNIA.
CARSON DA, Nobori T, Takabayashi K;
wpi; 95-246398/32.
Detecting methy: adenosine phosphatase in mammalian cells - by hybridisation with specific oligonucleotide for detecting malignan also new nucleic acid, expression vectors, derived polypeptide(s)
                                                                                                                                                                                                                                                                                                       /*tag=
exon
/*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2270 agaatatggcceagtttkctgttttattaccaagacattaagtagcatggctgcccagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                     /*tag=
exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2390
                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                        exon
                                                                                                                                                                                                                                                                                                                                                                                                                                Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human MTAse.
MTAse; methyladenosine-phosphatase; malignancy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   r 3
Q92813 standard; DNA; 2763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2509
                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    993
                                                                                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTAAAAATACGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttaaaaatacggacgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgcgactgtaaattggtacagtatttctggagggcaatttggtaaaaatgcatcaaaagac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCACCATTCTCTCTCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGACATTGTGTGTATTAGAGACTCCTGAATGATTTAGACAACTTCAAAATACAGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aagacattgtgtgtat-agagactcctcaatgatttagacaacttcaaaatacagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ch 20.5%;
l Similarity 99.0%;
491; Conservative
                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                            o
                                                                                                                                                                                                                                                                                                                                                   ы
                                                                                                                                                                                                                                                                                                                                                                                      ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2763 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                          1640..1762
                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers 254..421
                                                                                                                                                                                                                                                                                                                                964..1203
                                                                                                                                                                                                                                                                                                                                                                     616..720
                                                                                                                                                                                                                                                       2272..2310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 466;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 19;
5.20e-267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.
                     lignancy,
de(s) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 992
```

```
TRESULT ON ACCORDANCE OF THE STATE OF THE ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80000g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 8; Page 34-35; 47pp; English.

A cosmid gene library constructed from human placenta DNA wscreened using a MTAse cDNA probe to isolate a human MTAse clone (sequence given in Q92813). Absence of MTAse from a is indicative of malignancy.

Sequence 2763 BP; 778 A; 501 C; 602 G; 805 T;
                                                                                                                                                                                                                                                                                                                                                                                 09-APR-1991 (first entry)
Human Natriuretic Peptide Receptor B.
NPRB; ANP; BNP; CNP; kidney failure;
hyperaldosteronism; glaucoma; guanyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2270
                    /label= N
Modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q10572 standard;
Q10572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2390
                                                                                                                                                         Commain

/label- extracellular domain
/note- "binds natriuretic peptides

commain

456.456
                                                                                                                                                                                                                                                                                              Peptide
/label= signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2746
                                                            Domain 479..1047
/label- cytoplasmic domain
/note- "GC and protien kinase
Modified -site 24..26
                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         933
                                                                                                                                                'label- transmembrane domain
                                                                                                                                                                                                                                                            'label- mature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agaatatggcccagttttctgttttattaccaagacattaaagtagcatggctgcccagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agaaaagaagacattctaattccagtcatťttgggaattcctgcttaacttgaaaaaaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTAAAATACGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttaaaaatacggacgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 17.8%;
l Similarity 92.7%;
460; Conservative
               N-glycos_site
d -site 35..3
                                                                                                                                                                                                                                                                                     sequence
12
                                                                                                                                                                                                                                                            NPBR
                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 404; DB 15; I
Pred. No. 6.16e-228;
0; Mismatches 32;
                                                                                                                                                                                          Α, Β
                                                                                                                                                                                                                                                                                                                                                                                        cyclase.
                                                                                                                                                                                                                                                                                                                                                                                                            heart failure;
                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                            protein kinase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
••
```

```
S
                             밁
                                                    Ş
                                                                                       밁
                                                                                                           δ
                                                                                                                                             밁
                                                                                                                                                                       Š
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-JUN-1990; U03586.
23-JUN-1989; US-370673.
(GETH ) GENENTECH INC.
Chang M, Goeddel D, Lowe
WPI; 91-036711/05.
N-PSDB; Q10324.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               also be p
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Natriuretic protein receptor B - for diagnosis and treatment of kidney failure, heart failure, hyperaldosteronism, glaucoma etc. Claim 3; Fig 1; 49pp; English.

The sequence was derived from the DNA encoding natriuretic peptide receptor B, NPRB, having guanyl cyclase (GC) activity and protein kinase activity. The DNA can be inserted into expression vectors for the prodn. of the protein, opt. after being mutated to produce NPRB analogues. The protein has a mol wt. of 115 kD (calculated Mr-114,952). The protein (or variants) can be used in treatment of natriuretic peptide disorders, and also to isolate peptides using affinity chromatography. Antibodies with affinity for NPRB can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= N
Modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= N-glycos_site
Modified -site 349..351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= N-glycos_site 
Modified -site 277...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= N-glycos_site
Modified -site 244..246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified -site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Modified
                                                                                                                                                                                                                                                                                                                                                         592
 952
                                                                                                                                                                                                                                      712
                                                                                                                                                                                                                                                                                                                                                                                                                  532
                                                                                                                    832
                                                                                                                                                                                                                                                                  298
                                                                                                                                                                                                         358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                     CACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       annvdnrnvssnnngacsnynannsavdnknyhdndnnngngcvynaasvarnashwrnn
                             nantghnkgnvvankhvnkkrnnntrnvnnnnkhmrdvnnnhntrnngacndnnnncnvt
                                                                           GGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTT
                                                                                                                                                                                                                                                                                                                  nanrnnntngdyvnnyndvngnsnragntr-atgrnwndnrtrnnananrnanntvnvnt
                                                                                                                                                                                                                                                                                                                                                        GAAGCTAGGACTCCGGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                 TATTCCAATGGCTGAGCCGTTTTGCCCCCAAAACGAGAGGGTTCTTATAGAGACTGCTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                              nntagavasgnsakndhyrtnvrtgnsankngnnvvtnhghnnwtaraannyndartddr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTATGAGACCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGT-GTGCCA
TGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGGAGAAAAGAAGAACATTCTAA 1011
                                                          GATAGGGTCCACAGAATGGTCAGAAACCCTCCATAACCTGAAGAATATGGCCCCAGTTTTC
                                                                                                                 AAAGACCCTGAAAGAAAACCTAATAAAGCCAAAAGCTTACTGCTCACTACCATACCTCA
                                                                                                                                    rndgnrnvnkmngrryhgvtgnvvmdknndrntdnvnwamgdndsgdnnnaahysgankn
                                                                                                                                                                                                                                                               yrnnnannynnnanrannnrarndngvnngnsnmnnnagcnydgnnnyanvnnntnnnggt
                                                                                                                                                                                                                                                                                               TAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGGGGGGCGGATGTTATCAACATGAC
                                                                                                                                                                                                                                                                                                                                                                                    nhyntnngvnnanngsnnsvnhnvyarnnggnnnathnnrangrnvyncgnnmnhnnnn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prepd.
se 1047 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-glycos_site
d -site 600..6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-glycos_site
d -site 195..197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 9.2%; 90; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-glycos_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            161..163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D, Lowe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Pred.
263; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 94; DB 2; I
Pred. No. 5.36e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches 621;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 1047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                83 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             531
                                                          951
                                                                                       536
                                                                                                                   891
                                                                                                                                                                                                                                     771
                                                                                                                                                                                                                                                                  357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
```

```
RESULT THE STATE TO A COLOR OF THE STATE TO 
                                                                                                                                                                   /note GC and protien kinase activity"
/note GC and protien kinase activity"
Modified -site 24..26
/label= N-glycos_site
Modified -site 35..37
/label= N-glycos_site
Modified -site 161..163
/label= N-glycos_site
Modified -site 195..197
/label= N-glycos_site
Modified -site 244..246
/label= N-glycos_site
Modified -site 244..246
/label= N-glycos_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .f 5
Q10572 standard; DNA; 1047
Q10572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human Natriuretic Peptide Receptor B.
NPRB; ANP; BNP; CNP; kidney failure; heart fa
hyperaldosteronism; glaucoma; guanyl cyclase.
                                                                                                      /label= N-glycos_site
Modified -site 277..279
/label= N-glycos_site
Modified -site 349..351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-APR-1991 (first entry)
                                                             /label= N-glycos_site
Modified -site 600..602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label= extracellular domain
/note= "binds natriuretic peptides
Domain 456..456
  /label= cytoplasmic domain
                                                                                                                                                                                                                                                                                                                                                                                                                                      'label= transmembrane domain
)omain 479..1047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'label - mature NPBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'label- signal sequence
>rotein 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          iomo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATGTGGGAAAAAATATTAACATTTTAAGGGGGAAAAA-AAAAACCCCACCATTCTCTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGACTCCTGAATGATTTAGACAACTTCAAAATACAGAAGAAAAGCAAATGACTAGTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nanrsgnnynngndnsnknnvnkvrngnrnynrnsndrtnnnnnnvnnmnrcwandnanr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAATATGGGAAAGACATGCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nycnrgsnndnnnndsnnndwmnrysnnndnvkgmannhnsnnsshgsnkssncvvdsrn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTTGGTGCTGGGAACTCT 1448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nnnrgdvnmkgkgkmrtyw 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTCTACTTCCTATACTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ndngnnkgnnrrnnknggtsnndnnnrmnnyannnnknvnnrtnaynnnkrkanannyn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rngvhtgnvcagvvgnkmnrycnngdtvntasrmnsngnanknhvssttkdandnngcnn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ndnndvykvntngdaymvvsgnngrngnrhannnarmananndavssnrnrhrnhdnnrn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nnnhsvannnkrgntvnanandsvtnynsdnvgntansanstnmnvvtnnndnytcndan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGACTTAAAAATACGGACGTC 1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A,B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      heart failure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         çp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ğ
                                                                                                                                 င့
                                                                                                                                                                                                        . ငူ
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                       င္ပ
                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                             င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           also be prepa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           234
                                                                                                                                                                                                                           395
                                                                                                                                                                                                                                                                     650
                                                                                                                                                                                                                                                                                                                                                        592
                                                                                                                                                                                                                                                                                                                                                                                                  515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 9.7%; es 89; Conservative
         rkanannynnnnhsvannnkrgntvnanandsvtnynsdnvgntansanstnmnvvtnnn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.38;
9.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ä
```

Š

Š 밁 δÃ 밁 Ş 밁 Ş 밁 Š 밁 Š 밁 δÃ B

B

```
22-JUN-1989; U03586.
23-JUN-1989; US-370673.
(GETH ) GENENTECH INC.
Chang M, Goeddel D, Lowe E
WPI: 91-036711/05.
N-PSDB: 010324
                                                                                                                                                                                 Natriuretic protein receptor B - for diagnosis and treatment of kidney failure, heart failure, hyperaldosteronism, glaucoma etc. Claim 3; Fig 1; 49pp; English.

The sequence was derived from the DNA encoding natriuretic peptide receptor B, NPRB, having guanyl cyclase (GC) activity and protein kinase activity. The DNA can be inserted into expression vectors for the prodn. of the protein, opt. after being mucated to produce NPRB analogues. The protein has a mol wt. of 115 kD (calculated Mr-114,952). The protein (or variants) can be used in treatment of natriuretic peptide disorders, and also to isolate peptides using affinity chromatography. Antibodies with affinity for NPRB can
Score 76; DB 2; Length 1047
Pred. No. 1.15e-26;
249; Mismatches 567; Indels
                                                                                                                                 15 C;
                                                                                                                                     83 G;
                                                                      Length 1047;
                                                                                                                                        51 T;
       11;
       Gaps
              11;
```

114 hwrnnnntagavasgnsakndhyrtnvrtgnsankngnnvvtnhghnnwtaraannynda 173 CAGGTTATGGAGGGTTTCTGACCATTC-TGTGGACCCTATCTGAG-GTATGGTAGTGAGC GIGACCATIGICCCCTITGAGIGGCACC-GGAGICCTAGCTICTIAGCAGICTCTATAAG nnnggtrndgnrnvnkmngrryhgvtgnvvmdknndrntdnvnwamgdndsgdnnnaahy CAAATTCCAGCCTCCTTAGCAAGAACCACCTCTGGAACTGTGGTCATGTTGATAACATCC AGTAAGCTTTTGGCTTTATTAGCGTTTTCTTTCAGGGTCTTTAAGACCCGGTCCACCGAA rtddrnhyntnngvnnanngsnnsvnhnvyarnnggnnnathnnrangrnvyncgnnnmn vssnnnnrknmnnknnasmnwrnrwnnnnngnsnryhkgagsrntnsnrgssygsnmtah sganknnwwtgrnnnwwkgannsdnnncandnddnscdktnnstnanvangtgntnnmng ACTGCTTCCTCGTGCTCCTTCCAGCAGTCATAATCTGTCGCCATGGCGATACTTGCGTAA hnnnnnanrnnntngdyvnnyndvn-gnsnragntratgrnwndnrtrnnananrnannt TTTTTATCTTCCCCAAAATTAAGGCATCAGATGGCTTGCCAAATGGAGTATCCACATAT andnanrndngnnkgnnrrnnknggtsnndnnnnrmnn-yannnnknvnnrtn-aynnnk ngnnnnnanrsgnnynngndnsnknnvnkvrngnrnynrnsndrtnnnnnnvnnmnrcw TCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCCAGATGTTCGCCTGGTAGT-TG cvvdsrnvnkntdygnasnrstannddnnanyakknntannnnsgnnnnttgmnaadvys
:: : |::| |: | |: :: :: | | | | | : :: ncnvtnycnrgsnndnnnndsnnnd-wmnrysnnndnv-kgmannhnsnnsshgsnkssn CACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAATGAACT AACCTCTCTCGTTTTGGGGCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCCTCTGG GCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTCGATT **ACCTTTGAAGGCATGATGGTGTGCCTGCCTTCCATGCCTTGCAAGGAGGATGCAATCAACA** 411 694 709 649 456 591 471 754 396 516 531 575 634 887 827 277 337

ç 맑 ç 밁 ç 밁 ဌ

0

```
TRESULT COMMENTS OF THE SULT C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JLT 6
Q51746 standard; q
Q51746;
31-MAY 1994 (fir:
Oligonucleotide p:
Oligonucleotide; q
                                                                                                                                                                                                                                         EP-571911-A.
01-DEC-1993.
24-MAY-1993;
26-MAY-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-DEC-1993.
24-MAY-1993;
26-MAY-1992;
                                                                                                                                                                                                                                                                                                                                      ss.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oligonucleotide probe MK14-A consists of nucleotides 5-95 c (Q51735). It hybridized to all spp. of mycobacteria tested cross reacted to a few non-mycobacterial spp. The probe made useful as an initial screen for mycobacterial infection. See also Q51735-45 and Q51747-59.

Sequence 91 BP; 5 A; 17 C; 15 G; 4 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shank DD, Spears WPI; 93-378844/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                Q51746 standard;
Q51746;
31-MAY-1994 (fi
                          Oligonucleotide probe MK14-A consists (Q51735). It hybridized to all spp. c
                                                                                              samples
                                                                                                                         New oligo:nucleotide probes detection and amplification
                                                                                                                                                                       Shank DD, Spears
WPI; 93-378844/48.
                                                                                                                                                                                                                                                                                                                                                                                    Oligonucleotide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 3; Page 14; 23pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New oligo:nucleotide probes detection and amplification
                                                                                                                                                                                                              26-MAY-1992; US-889651.
(BECT ) BECTON DICKINSON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BECT ) BECTON DICKINSON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96
                                                                             aim 3; Page 14; 23pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11
                                                                                                                                                                                                                                                                                                                                                                             -MAY-1994 (first entry)
1gonucleotide probe MK14-A
1gonucleotide; DNA probe; r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGTCTTAAAGACCCTGAAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ssvhsyyvvhvvshhhsvhhvvhhvhvsvvvvhhvvhvvhhvhyhvyvsvctca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCACTGCGCGGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  andnngcnnnnnrgdv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCTTCACGGCGGTGGTGGTGGTGCCAGAGGCCATGTCTGCACGGGAAAGGAATCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dnytcndanndnndvykvntngdaymvvsgnngrngnrhannnarmananndavssnrnr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTTCAGTTCTTCCTAAAATTTCTGGATCATCCAGGCCTGTTCCCACCAATTATTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hrnhdnnrnrngvhtgnvcagvvgnkmnrycnngdtvntasrmnsngnanknhvssttkd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGGCGAGCGCTCGGGACTAAGGGAACCAAGCGAGCCACAGAGCGGTGGCTGTGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 7.4%;
4; Conservative
                                                                                                                                                                                             Spears PA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Spears PA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-889651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      irst entry)
probe MK14-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA probe; mycobacteria; disease diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91
       non-mycobacterial
                                                                             English
                                                                                                                                                                                                                   င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ဗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 42;
Pred. No.
44; Misma
                                                                                                                       specific for Mycobacteria - of Mycobacteria nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                 mycobacteria; disease diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   specific for Mycobacteria - of Mycobacteria nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
  s of nucleotides 5-95 of of mycobacteria tested, irial spp. The probe may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 9; L
2.85e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5-95 of
tested,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     used
d in
                                                                                                                         used
d in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64
                             MK14
                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
RESULT
AC NA
DT 01
COS E E E
FT m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRESULT RESULT FIRE SOLUTION OF THE SOLUTION O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ន្តទទ
                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N81164 standa:
N81164;
08-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Random point mutations were introduced into the alpha fragment of E.coil beta-galactosidase. The wild type sequence was obtained as a single stranded template and an oligonucleous which terminate at all possible nucleotide positions within a specified region. The variable 3' ends generated in this way are used as primers for reverse transcriptase. Nucleotides are misincorporated by the transcriptase and the molecules are completed to forms that can be amplified and then expressed in a suitable host-vector system. The sequence covers all 176 difft base substitutions, most of which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-NOV-1990 (first entry)
Base substituted E.coli beta-galactosidase
E.coli beta galactosidase alnha-from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            be useful as an initial screen
See also Q51735-45 and Q51747-1
Sequence 91 BP; 5 A; 1
                                              08-NOV-1990 (first entry)
Base substituted E.coli beta-galactosidase alpha-fragment.
E.coli beta galactosidase alpha-fragment; base substitutic
Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             occurred singularly in any See also P80575. Sequence 204 BP; 21 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Introducing random point mutations into nucleic acods - by prepn of single stranded template, annealing a primer misincorporation, completion of molecules and screening.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SUSO) SUOMEN SOKERI OY.
Lehtovaara P. Knowles J.
WPI; 88-279927/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
    misc_feature
                                                                                                                                             N81164 standard;
N81164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; p; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-MAR-1988;
03-APR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP-285123-A.
05-MAY-1988.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /function=multiple cloning site primer_bind 187..204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag=
                                                                                                                                                                                                                                                                                                           134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        709
                                                                                                                                                                                                                                                                                                                                                         10
                                                                                                                                                                                                                                                                                                                                                                                                     75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12
                                                                                                                                                                                                                                                                 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                 dhyvybbbvynvhnhnncncccbnnhvchnvhbnnhrnwayvrhdarrddvh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATGTTGATAACATCCGCCCCCCAGGTGCGGAACATGAAGCTTTCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    svhsyyvvhvvshhhsvhhvvhvkvsvvvhhvvhvvhhvhyhvyvsvc
                                                                                                                                                                                                                                                                                                                                                                                                  yycdchvgccgymrttthhyrrmrbnvyrdynrsdaaawyccyrrsvk-ydccynachhd
                                                                                                                                                                                                                                                             GTTCCCTTAGTCCCGAGCGCTCGCCCACTGCAGATTCCTTTCCCGTGCAGAC
                                                                                                                                                                                                                                                                                                                                                       TCCGCACTGCTCACTCCCGCGCAGTGAGGTTGGCACAGCCACCGCTCTGTGGCTCGCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.8%;
larity 10.7%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.98;
larity 2.08;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               105163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers 19..69
    Location/Qualifiers 19..69
                                                                                                                                                                   DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA;
                                                                                                                                                                   204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Koivula A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           given mutant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 44;
Pred. No.
46; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
Pred.
60; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7-59
17 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for mycobacterial infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bamford
                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 9.08e-08;
natches 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 9; L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ი</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ູດ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       alpha-fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Reinikainen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    substitutions;
                                                                         substitutions;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acods -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H
''
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 most of which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Others;
                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                        185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    elongation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                     133
                                                                                                                                                                                                                                                                                                                                                       69
```

Ş 밁

٠

```
ç
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proceedings of the mutations of molecules and screening.

The complete and of molecules was obtained as of the constitute appendix and an oligonuclectied was physical to the openate appendix and then expressed to amplified and then expressed in a suitable host-vector system.

The sequence 204 BB; 21 A; 47 C; 17 G; 11 T; 108 Others;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                    /note= nencoded by Z (see MO9418318-A. 18-AUG-1994. 100977. 01-FEB-1993; US-013416. 30-DEC-1993; US-176500. 31-JAN-1994; US-189331. (UYNC-) UNIV NORTH CAROLI FOWLKES DM, TAS BK; WPI; 94-Z79739/34.
                                                                                                                                                                                                                                                                                    070470 stand:
070470;
070470;
10-APR-1995
Generic DNA
                                                                                                                                                                                                                                                     effector
direct; r
                                                                                                                                                                                                                                                                                                                                                                1375
                                                                                                                                                                                                                                                                                                                                                                                                       1435 CCAAAGGACGTCCGTATTTTTAAGTCTTTTGATGCATTTTACCAAATTGCCCTCCAGAAA 1376
Identifying proteins or peptide(s) which bind a ligand - by screening a recombinant vector ilbrary expressing fusion proteins comprising a binding domain and an effector domain Disclosure; Page 36; 255pp; English.
070470 is a generic DNA sequence used to generate random TSAR (Totally Synthetic Affinity Reagents) peptides.This generic formula can also be represented as follows: x(NNB)4(CAC)(NNB)82(NNB)8(CAC)(NNB)8 (CAC)2(NNB)9x, x and x are flanking restriction sites (X is not the same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                                                                                                                                                                                                                                                                                             76 ycdchvgccgymrttthhyrrmrbnvyrdynrsdaaawyccyrrsvkydccynachhddh 135 :|: ::| | |:: : : :::| |: :: :: ::|
                                                                                                                                                                                                                       sc_feature
                                                                                                                                                                                                                                               R-1995 (first entry)
R-1995 (first entry)
Ic DNA sequence to generate a random TSAR peptide library.
Icotally synthetic affinity reagent; synthetic; binding doctor domain; concartenated heterofunctional protein; linker;
Itor domain; concartenated heterofunctional protein; linker;
                                                                                                                                                                                                                                                                                                                      standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 1.8%;
Similarity 11.9%;
12; Conservative
                                                                                                                                                                                                                     Location/Qualifiers 55..60
                                                                                                                       CAROLINA.
                                                                                                                                                                                                  (see
                                                                                                                                                                                                                                                                                                                      BP.
                                                                                                                                                                                                comments)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 41; Di
Pred. No. 9.1
52; Mismatci
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1; 5, 9.08e-08; 37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              elongation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   can be
                                                                                                                                                                                                                                                                              domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         to of
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

ç

1419

TTTTTAAGTCTTTTGATGCATTTTACCAAATTGCCCTCCAGAAATACTGTACCAATTTAC

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               as r) that are not specified further. The peptides generated by this and cother generic sequences (Q70471-73) have invariant histidine residues incorporated into variant sequences. TSARs are concatenated that variant sequences. TSARs are concatenated regions - a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. They may further comprise a linker peptide between the 2 domains. The TSARs concerns, comprising a TSAR binding domain can be used in vivo to company to the comprise a linker peptide between the 2 domains. The TSARs concerns a chemically or biologically active molety, eg. metal ion, company to the specific target or on the cell. They can also replace the function of macromolecules, eg. cell. They can also replace the function of macromolecules, eg. concocional or polyclonal antibodies and therefore circumvent the need for complex methods of hybridoma formation or in vivo antibody concocions. The TSARs are easily characterised and have designed activity allowing direct and rapid detection in a screening process.
             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Ma
Best Loc
Matches
                                                                                                                            P-PSDB; R98366.

Nuclear Dbf2-related protein kinase - used in the identification of nuclear Dbf2-related with geometrs and antagonists, for treatment of disorders associated with geometrs and antagonists, for treatment of disorders associated with geometric antagonists and antagonists.

Scalamodulin response anomalies

Scalamodulin response anomalies

Scalaim 7; Page 33-37; 48pp; English.

A CDNA clone (T31452) codes for a novel human nuclear Dbf2-related protein kinase, Ndr (R98366), that binds to calmodulin in a protein kinase, Ndr (R98366), that binds to calmodulin in a protein kinase, Ndr (R98366), that binds to calmodulin in a protein kinase, Ndr (R98366), that binds to calmodulin in a protein kinase conserved regions of C. elegans cmllb8 and Drosophila Ndr (see also R98365). The Ndr gene was localised to human chromosome for also R98365). The Ndr gene was localised to human chromosome for biscocompatibility class 1 genes. The isolated cDNA can be used to produce recombinant Ndr in transformed host cells, e.g.

Escharichia coli JM109 or mammalian COS-1 cells, or as a probe to identify related sequences.

Sequence 3018 BP; 908 A; 640 C; 672 G; 798 T;
                                                                      Query
Best I
                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= a
W0961979-A1.
27-JUN 1996.
20-DEC-1995; E05052.
22-DEC-1994; EP-810746.
(CIBA ) CIBA GEIGY AG
Hemmings BA, Millward TA;
WPI; 96-309593/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human Ndr serine/threonine kinase cDNA.
Serine/threonine/thase; Ndr; nuclear Dbf2-related kinase; calmodulin; agonist; antagonist; therapy; ss.
Homo saplens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T 11
T31452 standard;
449 tttototggottttgttacatattacotgtttgtcotocagaaaacttgcaccaatttac 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match
                                                                                             Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGGCACAGCCACCGCTGTGGCTCGCTTAGTCCCGAGCGCTCGCCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGATTCCTTTCCGTGCAGACATGGCCTCTGGCACCACCACCACCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bnnbnnbnnbnnbcacnnbnnbnnbnnbnnbnnbnnbcaccacnnb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     h 1.5%;
Similarity 9.8%;
11; Conservative
                                                  h 1.5%;
Similarity 74.0%;
54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 34;
Pred. No.
29; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                     Score 35; DB 21; L
Pred. No. 7.88e-05;
0; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       e 34; DB 12; L6
. No. 2.35e-04;
Mismatches 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 114;
                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                         Indels
                                                                                               3018;
                                                                                                                                                                                                                                                                                                                                                       Dbf2-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             functional
                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                           0
```

밁

509 attcctaccaata

521

```
Ş
                                         밁
                                                                          Ş
                                                                                                                  밁
                                                                                                                                                                                                                                                                 If Identifying proteins or peptide(s) which bind a ligand - by screening a recombinant vector library expressing fusion proteins proteins processing a binding domain and an effector domain proteins processing a binding domain and an effector domain so proteins processing a binding domain and an effector domain so proteins processes are should be comprising a binding domain and an effector domain so be comprising a binding domain and an effector process. This generate random TSAR (Totally CO 190467 is a generic DNA sequence used to generate formula can also be comprised as follows: x(NNB)16(TGC)(NNB)12 x x comprised as follows: x(NNB)16(TGC)(NNB)12 x x comprised further. Other generic sequences are shown in Q70466-68. CC other specified further. Other generic sequences are shown in Q70466-68. CC comprising at least two functional regions - a binding domain with cc comprising at least two functional regions - a binding domain with cc comprising at least two functional regions - a binding domain with cc comprising at least two functional regions - a binding domain that is competite between the 2 domains. The oligonucleotides are also designed so that the expressed peptide contains 2 or 4 cysteine residues positioned in, or flanking, the unpredicted or variant residues. These residues confer some degree of conformational rigidity to the peptides. The TSARs confers some degree of conformational rigidity to the peptides. The TSARs confers some degree of conformational rigidity to the peptides. The TSARs confers a chemically or biologically active moiety, eg. metal ion, complex methods of hybridoma formation or in vivo antibody production. The TSARs are easily characterised and have designed activity allowing complex methods of hybridoma formation or in vivo antibody production. CC direct and rapid detection in a screening process.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ဌ
                                                                                                                                                             Matches
                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-FEB-1994; U00977.
01-FEB-1993; US-013416.
30-DEC-1993; US-176500.
31-JAN-1994; US-189331.
(UYNC-) UNIV NORTH CAROLINA.
Fowlkes DM, Kay BK;
WPI; 94-27939/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IT 12
Q70467 standard; DNA; 114
Q70467;
05-APR-1995 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Generic DNA sequence to generate a random TSAR petide library. TSAR; totally synthetic affinity reagent; synthetic; binding dom effector domain; concateneated heterofunctional protein; linker; direct; rapid; detection; screening; treatment; generic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1359 AGTCGCATCAATA 1347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-AUG-1994
    99
                                       63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sc_feature
                                                                              39
                                                                                                                                                                                Local Similarity
                                                                                                                      w
                                       TTGGCACAGCCACCGCTCGTGGCTCGCTTGGTTCCCTTAGTCCCGAGCGCCTCGCCCACT
                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                        l rapid d
                                                                                                                                                         1.4%;
larity 3.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence represents 'Z'; Z can 5, 9 or 12 nucleotides (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers 55..60
                                                                                                                                                                                                                                    detection in a screening process. P; 0 A; 2 C; 2 G; 2 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12 nucleotides (see
                                                                                                                                                         Pred.
32; 1
                                                                                                                                                                                                 Score
                                                                                                                                                             Mismatches
                                                                                                                                                                              32; DB 12;
No. 2.02e-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 þ
                                                                                                                                                                                               Length 114
                                                                                                                                                           Indels
                                       114
                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        domain;
                                                                                                                                                         Gaps
                                                                                                                      62
                                                                                                                                                           0
```

```
RESULT
OF AC OF AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence generates peptides that are cloverleaf in structure. Other compensates peptides when in Q70465-68. Other specific peptides comeatenated by these generic sequences are shown in R65150-54. TSARs are concatenated by these generic sequences are shown in R65150-54. TSARs are concatenated heterofunctional proteins or peptides, comprising at least two functional regions - a binding domain with affinity for a ligand and ca second effector peptide portion that is chemically or biologically cative. They may further comprise a linker peptide between the 2 domains. The oligonucleotides are also designed so that the expressed peptide contains 2 or 4 cysteine residues positioned in, or flanking, the cumpredicted or variant residues. These residues confer some degree of conformational rigidity to the peptides. The TSARs or compsns. comprising a TSAR binding domain can be used in vivo to deliver a chemically or conformational rigidity, eg. metal ion, radioisotope, peptide, toxin cor enzyme, to the specific target or on the cell. They can also replace the function of macromolecules, eg. monoclonal or polyclonal antibodies can distinct the conformation and therefore circumvent the need for complex metabods of hybridoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           comments) comments) 18-AUG-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1993;
30-DEC-1993;
31-JAN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      comprising a binding domain and an effector domain Disclosure; Page 35; 255pp; English. 070469 is a generic DNA sequence used to generate random TSAR peptide This generic formula can be represented as follows: X(TGC)(NNB)10-(TGC)(NNB)2(TGC)(NNB)14(TGC)Y. X and Y are flanking restriction sites (X is not the same as Y) that are not specified further. This
                    Generic DNA sequence to generate a random TSAR peptide library. TSAR; totally synthetic affinity reagent; synthetic; binding do effector domain; concatenated beterofunctional protein; linker;
                                                                                                                                      T 14
070472 standard; DNA;
070472;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   formation or in vivo antibody production. The TSARs are easil characterised and have designed activity allowing direct and detection in a screening process.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Identifying proteins or peptide(s) which bind a ligand screening a recombinant vector library expressing fusion comprising a binding domain and an effector domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYNC-) UNIV NORTH C
Fowlkes DM, Kay BK;
WPI; 94-279739/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      direct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          effector domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Generic DNA sequence to generate a random TSAR peptide library. TSAR; totally synthetic affinity reagent; synthetic; binding do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q70469 standard; DNA; 114
direct; rapid; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          070469;
                                                                                                            10-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         *tag=
                                                                                                                                                                                                                                                                                                                                        63
                                                                                                                                                                                                                                                                                   18
                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                CCCGAGCGCTCGCCCACTGCAGATTCCTTTCCCGTGCAGACATGGCCTCTG
                                                                                                                                                                                                                                                                                                                                                                                               CACTCCCGCGCAGTGAGGTTGGCACAGCCACCGCTCTGTGGCTCGCTTTGGTTCCCTTAGT
                                                                                                                                                                                                                                                                                                                                     bnnbtgcnnbnnbnnbnnbnnbnnbnnbnnbnnbnnbnnbnnbtg
                                                                                                                                                                                                                                                                                                                                                                                                                                              rapid;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in a screening
114 BP; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-013416.
                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence represents 'Z'; :
5,9 or 12 nucleotides (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-189331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                concateneated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAROLINA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        e process.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP.
screening;
                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                screening;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 31;
Pred. No.
29; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                heterofunctional protein;
ening; treatment; generic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 12;
5.82e-03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Z can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The TSARs are easily
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            þe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              by proteins
                                                                                                                                                                                                                                                                                                                                     113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                          domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                               80
```

Synthetic. Key

.sc_feature

Location/Qualifiers 55..60

```
FT /*Hag= "encoded by Z"
PN W09418318-A.
PD 18-NUG-1994; U00977.
PF 01-FEB-1994; U00977.
PF 01-FEB-1994; U00977.
PF 01-FEB-1994; U00977.
PF 01-FEB-1994; U5-189331.
PR 31-JAN-1994; U5-189331.
PA (UYNC-) UNIV NORTH CAROLINA.
PI FOWLKES DM, Kay BK;
PR 19-SDB; R59383.
PT Identifying proteins or peptide(s) which bind a ligand - by
PT comprising a binding domain and an effector domain
PT screening a recombinant vector library expressing fusion proteins
PT screening a penaric DNA sequence used to generate random TSAR (Totally
CC Synthetic Affinity Reagents) peptides. Phils generic formula can also be
CC represented as follows: X(NB)1(CAC)(NNB)1(CAC)(NNB)2Z(NNB)6
CC represented as follows: X(NB)1(CAC)(NNB)1(CAC)(NNB)2Z(NNB)6
CC (X is not the same as Y) that are not specified further. The peptides
CC (X is not the same as Y) that are not specified further. The peptides
CC (X is not the same as Y) that are not specified further. The peptides
CC (Active, They may further comprise a linker sequences. TSARs are
CC concatenated by this and other generic sequences. TSARs are
CC concatenated peptide portion that is chemically or biologically
CC active, They may further comprise a linker peptide between the 2 domains.
CC vivo to deliver a chemically or biologically active molecy, eg. metal
CC unnoclonal or polyclonal antibodies and therefore circumvent the need
CC monoclonal or polyclonal antibodies and therefore circumvent the need
CC monoclonal or Polyclonal antibodies and therefore circumvent the need
CC production. The TSARs are easily characterised and have designed
CC sequence 114 BP; 6 A; 12 C; 0 G; 0 T;
                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
WO9418318 A.
18-AUG-1994.
01-FEB-1994; U00977.
01-FEB-1993; US-013416.
30-DEC-1993; US-176500.
                                                                                                                                                                                                                                                                       Q70465 standard; I
Q70465;
Q70465;
Q5-APR-1995 (fir
                                                                                                                                                                                                         Generic DNA sequence to generate a random TSAR petide library TSAR; totally synthetic affinity reagent; synthetic; binding of effector domain; concateneated heterofunctional protein; linke direct; rapid; detection; screening; treatment; generic; ss.
                                                                                             /note- "this sequence represents 'Z'; Z can be sequence of 6, 9 or 12 nucleotides (see comments)"
                                                                                                                                                                                                Synthetic.
                                                                                                                                                                                                                                                                                                                                                                        102 GATTCCTTTCCCGTGCAGACATGGCCTCTGGCACCACCACCACCGCCGT 150
                                                                                                                                                                                                                                                                                                                                                                                                           63
                                                                                                                                                                                                                                                                                                                                                                                                                                         42
                                                                                                                                                               lsc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ω
                                                                                                                                                                                                                                                                                                                                                                                                                                     h 1.4%;
Similarity 10.1%;
11; Conservative
                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                             Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                              DNA; 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 31; DB 12;
Pred. No. 5.82e-03;
28; Mismatches 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                   domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

```
PT Identifying proteins or peptide(s) which bind a ligand - by ridentifying proteins or peptide(s) which bind a ligand - by processing a recombinant vector library expressing fusion proteins promprising a binding domain and an effector domain proteins proteins proteins proteins are comprising a binding domain and an effector domain proteins proteins of the protein of the same as y) that are conditional proteins or peptides are shown in 070465-68. CC comprising at least two functional regions - a binding domain with competition between the 2 domains. The oligonucleotides are also designed so that the expressed peptide contains 2 or 4 cysteine residues positioned in, or flanking, the unpredicted or variant residues positioned confer some degree of conformational rigidity to the peptides. These residues or compsiss. Comprising a TSAR binding domain can be used in vivo to deliver a chemically or biologically active molety, eg. metal ion, call. They can also replace the function of macromalecules, eg. coll. They can also replace the function of macromalecules eg. coll. They can also replace the function of macromalecules. G. composes methods of hybridoma formation or in vivo antibody protein or polyclonal antibodies and therefore circumvent the need continuity allowing direct and rapid detection in a screening process. Sequence 114 BP; 0 A; 2 C; 2 G; 2 T;
င္ပ
                                     밁
                                                                        f
                                                                                                               밁
                                                                                                                                                      Matches
                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31-JAN-1994; US-189331.

(UYNC-) UNIV NORTH CAROLIN

FOWNIKES DM, Kay BK;

WPI; 94-279739/34.

P-PSDB; R65150 and R65151.
  155
                                                                          99
  TCTTCACGGCGGTGGTGGTGGTGCCAGAGGCCATGTCTGCACG
                                         5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAROLINA.
                                                                                                                                                                          1.48;
                                                                                                                                                      Score 31;
Pred. No. 29; Misma
                                                                                                                                                      re 31; DB 12;
d. No. 5.82e-03;
Mismatches 69
                                                                                                                                                             69;
                                                                                                                                                                                              Length 114
                                           108
                                                                                                                                                             Indels
                                                                                                                                                             Gaps
                                                                                                                                                               0
```

Search completed: Mon Job time : 231 secs. Feb 10 22:55:11 1997

Description: Perfect Score: N.A. Sequence: Database Scoring table: MPsrch_nn Database Post-processing: Nmatch Tabular output STD : Release 2.1D John F. Collins, Biocomputing Research Unit. Copyright (c) 1993, 1994, 1995 University of Edinburgh, U.K. Distribution rights by IntelliGenetics, Inc. n.a. - n.a. database search, using Smith-Waterman algorithm not generated 100:EST100 101:EST101 102:EST102 103:EST103 104:EST104 105:EST105 106:EST106 107:EST107 108:EST108 109:EST109 110:EST110 111:EST111 112:EST112 113:EST113 114:EST114 115:EST115 116:EST116 117:EST117 118:EST118 119:EST119 120:EST120 121:EST116 127:EST127 128:EST128 129:EST129 126:EST126 127:EST127 128:EST128 129:EST124 125:EST125 126:EST126 127:EST127 128:EST128 129:EST1 130:STS2 131:STS3 132:STS4 133:STS5 134:STS6 135:STS7 136:STS8 137:STS3 138:STS10 139:UEEST 140:UPEST1 141:UPEST2 142:UPEST3 143:UPEST4 144:UPEST5 145:UPEST1 141:UPEST2 142:UPEST3 143:UPEST4 144:UPEST5 145:UPEST1 159:UPEST1 150:UPEST1 150:UPEST1 150:UPEST1 150:UPEST1 150:UPEST1 150:UPEST3 160:UPEST4 164:UPEST3 164:UPEST Minimum : Listing 9:EST9 10:EST10 11:EST11 12:EST12 1: 15:EST15 16:EST16 17:EST17 18:EST18 21:EST21 22:EST22 23:EST23 24:EST24 27:EST27 28:EST22 23:EST23 24:EST24 27:EST27 28:EST28 29:EST29 30:EST30 33:EST33 34:EST34 35:EST35 36:EST36 33:EST33 40:EST40 41:EST41 42:EST44 45:EST45 46:EST46 47:EST47 48:EST48 51:EST51 52:EST52 53:EST53 54:EST56 57:EST51 52:EST52 53:EST53 54:EST56 69:EST51 54:EST56 56:EST66 69:EST57 56:EST56 57:EST77 72:EST72 75:EST75 76:EST76 77:EST77 78:EST78 81:EST81 82:EST88 89:EST89 90:EST89 93:EST83 94:EST88 89:EST89 90:EST90 93:EST83 94:EST94 95:EST89 96:EST96 TABLE default Gap 6 (1-2) 2269 >US-08-674-311-1 (1-2269) from US08674311.seq 99:EST99 EST-STS-TWO Dbase 0; Query 0 Mon Feb 10 22:55:36 1997; MasPar time 1092.42 Seconds 916.033 Million cell update: 630489 seqs, 220513910 bases 1 GAATTCCGCTCCGCACTGCT...... CTTAAGGCGAGGCGTGACGA..... Match 0% first 45 summaries 7 48:EST48 49:EST49 50:EST50 33 54:EST54 55:EST55 56:EST56 60:EST60 61:EST61 62:EST62 55 66:EST66 67:EST67 68:EST68 11 72:EST72 73:EST73 74:EST74 778:EST78 79:EST79 80:EST80 13 84:EST84 85:EST85 86:EST86 19 90:EST90 91:EST91 92:EST92 15 96:EST96 97:EST97 98:EST98 12:EST12 13:EST13 14:EST14 7 18:EST18 19:EST19 20:EST20 13 24:EST24 25:EST25 26:EST26 19 30:EST30 31:EST31 32:EST32 15 36:EST36 37:EST37 38:EST38 15 42:EST42 43:EST43 44:EST44 17 48:EST48 49:EST49 50:EST50 × 2 <u>-</u> 얁 2 AAAAAAAAAAAGCGGAATTC TTTTTTTTTTTCGCCTTAAG cell updates/sec 7:EST7 8:EST8 (ME)

173:enSTS1 174:enSTS2

Statistics: Mean 12.257; Variance 2.969; scale 4.129

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

																										•																
იი)		ი	a	ი	a	G	a			ი	ი	ი	ი		ი ი)		a	G	ი		O	O	(י כ	י כ	ם כ	0		ი	a	o c	,		C)				Resul No	
4 4	43	42	4	6	39	38	37	36	35	34	33	32	3	30	29	85	2 6	0 0	4 1	23	22	21	20	19	18	7 5	2 5	л ÷	בו ב	12	11	10	φ.	, a	J 0	n u	4 6		ט נ			
26																																								· თ	Score	
1:	٠	٠		٠	٠		•		٠	•	٠							•	•	•	•	•	٠					•	•	•		•				•		٠	٠	3.0	tch	df
685 1	72	72	71	52	39	21	12	ຄ	96	96	80	80	59	47	2	32	N N	3 -	6	8	9	90	3	63	9 4	2 6	200	V +	. 6	92	90	90	oς	מ כ	о о Ф	4 4	73	8	80	168	Length D	
153	Ó	143	ũ	ŭ	φ	ະ	2	σ	4	161	w	7	φ	35	Ξ,	× ×	× ×	- ن	ŭ	32	80	9	4	61	w	بر	~ c	^ ת	ĭč	·w	47	S	ŭi č	ñì	=======================================	ōŪ	ŏ		34	0		
W22325	S751	2751	2	2	н08801	5	304	065	1413	4133	334ZA	HSB334ZA5	020E05	217z	N47304	N52043	245000	H03560	N29618	977	252H1	337G10	362		783	2022	22013	20203	0 00	G08836	788	SW03788		0764	211340 081578	MBBLSS	5983	5	17388	INMU	ID	
Human retina	b26a07.sl Homo sapi	b26a07.s1 Homo sap	02b02.sl Homo sap	67a07.s1 Homo sapi	88a03.s1 Homo sapi	16a05.s1 Homo sapi	44a06.s1 Homo sapi	man fetal brain cDN	a73c06.rl Soares fe	a73c06.rl Soares f	sapiens (D2S2301)	apiens (D2S2301)	man fetal brain cDN	sapiens (D1S436	74h07.rl Homo sar	08h05.sl Homo sar	yx88aU3.rl Homo sapie	3/n04.rl Homo sap	67d03.sl Homo sap	uman STS CHLC.ATA	uman aorta cDNA 5'	orta cDNA 5'-e)1.s1 Homo sapi)1.s1 Homo sapi	STS CHLC.ATA5H	O4.SI SOares	04 sl soares pa	of all Homo sapre	2.rl Homo sap	STS CHLC. ATA21	02.rl Soares	02.rl Soares fe	vw70a07.sl Homo sapie	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iorta cuna o	apiens partial n	57b12.sl Homo sap	uman STS SHGC-144	an STS SH	keratinocyte c		
688	4.29e-0	29e-	.29e-0	.29e-0	9e-0	.68e-0	.29e-0	29e-03	.68e-0	68e-	.68e-0	.68e-0	68e-04	68e-	.29e-0	. 68e-0	0	. 68e-0	. 29e-0	4.29e-	9e-0	29e-03	.68e-0	8e-	. 68e-0			20-03	6e-0	6e-0	.76e-	4.76e-0	0 0	7000	536-0	. 53e-1	.97e-2	8./4e-3	4e-	.35e-57	z	

RESULT 1
LOCUS
DEFINITION
ACCESSION

HUMNK726 168 k Human keratinocyte

e cDNA,

mRNA , clone

726

EST

01-DEC-1994

ALIGNMENTS

D29573

NID KEYWORDS SOURCE ORGANISM

g599306
EST(expressed sequence tag).
Homo sapiens Epidermis Keratinocyte cDNA to mRNA.
Homo sapiens

Eukaryota; Animalia; Chordata; Vertebrata; Mammalia; Theria; Eutheria; Primates; Haplorhini; Catarrhini; Hominidae.

1 (bases 1 to 168)

REFERENCE

```
JOURNAL REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
source
                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 3.0%;
Best Local Similarity 93.3%;
Matches 83; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               213 AAAATATGTGGATACTCCATTTGGCAAG 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ttaaatatgtggatac-ccatttggcaag 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Konishi,K., Morishima,Y.-I.,
Yamanishi,K. and Yasuno,H.
Unpublished (1994)
2 (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (11-Mar-1994) to DE Kiyofumi Yamanishi Department of Dermatology Kyoto Prefectural University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Konishi,K., Morishima,Y., Ueda,E., Kibe,Y., Nonomura,K., Yamanishi,K. and Yasuno,H. Cataloging of the genes expressed in human keratinocytes: analysis of 607 randomly isolated cDNA sequences biophys. Res. Commun. 202 (2), 976-983 (1994)
Primer A:
Primer B:
STS size:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     91214814
91214814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
91314814
9131481
91314814
91314814
91314814
91314814
91314814
91314814
9131481
91314814
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
9131481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G17388
human STS
G17388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Phone: 75-251-5587
Fax: 75-251-5687
PROJECT-'human_epidermal_keratinocyte_ESTs'.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kyoto, Kyoto, 602
                                                                                                                                                                                             Contact: Richard M. Myers
Stanford Human Genome Center (SHGC)
Stanford University School of Medicine
Department of Genetics, M-344, Stanford,
Tel: 4157259687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kamigyo-ku
                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Myers
                                                                                                                                                                      4157259689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism "Homo sapiens"
/cell_tine="primary culture"
/cell_type="Keratinocyte"
/sequenced_mol="cDNA to mRNA"
/tissue_type="Epidermis"
a 26 c 37 g 62 t
                                                                                                                              myers@shgc.stanford.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400 bp
SHGC-14428
           TGTGGATACTCCATTTGGCA
TCACAAATCAAGCCAGCAAG
90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 67;
Pred. No.
0; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
clone pG-7320.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       e 67; DB 50; Le
l. No. 2.35e-57;
Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ueda, E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nonomura, K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 168
                                                                                                                                                                                                                                         Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nonomura, K.,
                                                                                                                                                                                                                                         94305, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kibe, S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                  THE STATE OF THE S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HS388293
G17388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Myers R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Buffer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protoco.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h 2.2%;
Similarity 98.2%;
55; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MgCl2:
KCl:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Denaturation: Annealing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Template:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thermal Cycler:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Polymerization:
PCR Cycles:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tris-HCl:
                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
```

δÃ

Š g

д

```
Unpublished.
Contact: Richard M. Myers Stanford Human Genome Center (SHGC)
Stanford University School of Medicine Department of Genetics,
M-344, Stanford, CA 94305, USA Tel: 4157259689
M-344, Stanford, CA 94305, USA Tel: 4157259689
Email: myerseshgc.stanford.edu primer A: TGTGGATACTCCATTTGGCA
Primer B: TCACAAARCAAGCACAG STS size: 90 PCR Profile: Initial
incubation: 94 degrees C for 90 seconds Denaturation: 94 degrees C
for 15 seconds Annealing: 62 degrees C for 23 seconds
Polymerization: 72 degrees C for 30 seconds PCR Cycles: 30 Thermal
Cycler: Perkin Elmer 9600 Protocol: Template: 25 ng Primer: each 1
UM dNTPs: each 200 uM Tag Polymerase: 0.05 units/ul Total vol: 10
ul Buffer: MgCl2: 2.5 mM KCl: 50 mM Tris-HCl: 20 mM pH: 8.3
Chromosome 9. NCBI gi: 121814
Vo.:
                                                                                                                                                                                                                                                                                                                              07-MAR 1996 (Rel. 47, Created)
07-MAR 1996 (Rel. 47, Last updated, Version 1)
human STS SHGC-14428 clone pG-7320.
primer; sequence tagged site; STS sequence.
Homo sapiens (human)
Eukaryota, Animalia, Metazoa; Chordata; Vertebrata;
Theria; Eutheria; Primates; Haplorhini; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186 ATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28 atccagaaattttagaaggaaga-ctgaaaaatatgtggatactccatttggcaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCR Profile:
Initial incubation:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; DNA; STS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /map="9"
61..80
/map="9"
complement(131..150)
/map="9"
a 74 c 83 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dNTPs:
Tag Polymerase:
Total Vol:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism-"Homo sapiens"
/note-"human"
61..150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
1..400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 49; DB 134;
Pred. No. 8.74e-32;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25 ng
each 1 uM
each 200 uM
0.05 units/ul
10 ul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          50
20
8.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94 degrees C
62 degrees C
72 degrees C
30
Perkin Elmer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94 degrees
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for
for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23
30
                                                                                                                                                                                                                                                                                                                                       Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seconds
seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

۲,

```
mRNA
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                     JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                               TITLE
                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            186 ATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
nes 55; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28 atccagaaattttagaaggaaga-ctgaaaaaatatgtggatactccatttggcaag
                                                                                                                                                                                                                                                                                                                                                                                                                                       N45983
YY57b12.s1
                                                                                                                                                                      Contact: Wilson RK
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. 1
Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                      Eukaryotae; Metazoa; Eumetazoa; Bilateria; Coelomata; Deuterostomia; Chordata; Vertebrata; Gnathostomata; Osteichth; Sarcopterygi; Choanata; Tetrapoda; Amnicha; Mammalia; Theria Eutheria; Archonta; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 473)
Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M., Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P. and
                                                                                                   High quality sequence stops: 399
Source: IMAGE Consortium, LLNL;
This clone is available royalty-free through LLNL;
IMAGE Consortium (info@image.llnl.gov) for further i
                                                                                                                                                                                                                                                                 The WashU-Merck EST Unpublished (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                         Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                               Wilson, R.
             187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.2%;
larity 98.2%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /map="9"
complement(131..150)
/map="9"
'9; 95 A; 74 C; 83 G; 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /map="9"
61..80
                          /note-"human"
<1..>473
                                                 /organism="Homo
/clone="277631"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note-"human'
                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
            ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       đđ
                                                                                                                                                                                                                                                                               Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 49; DB 173;
Pred. No. 8.74e-32;
0; Mismatches 0
            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G; 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens*
            Q
            137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Τ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST
277631 3'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   47 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                  Louis, MO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                      contact the information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۲.
                                                                                                                                                                                                                                                                                                                                                                                                    Osteichthyes;
                                                                                                                                                                                                                                                                                                                                                                                       Theria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.
```

```
RESULT 6
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                     mRNA
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                        ဌ
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                 မှ
                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                β
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                          SOURCE
                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
               ORGANISM
                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                    1353
                                                                                                                                                                                         1293 A 1293
                                                                                                                                                                                                                      313 a 313
                                                                                                                                                                                                                                                                 253 atccataaataagcaaagagtcctttctcttacccacattactcctcagtcaaggaaagt 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          965 AGACATTAAAGTAGCATGGCTGCCCAGGAGAAAAGA 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    905 GAATGGTCAGAAACCCTCCATAACCTGAAGAATATGGCCCAGTTTTCTGTTTTATTACCA 964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   59 agacattaaaataacatggctgcccaggagaaaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 gaatattcaaaacctctttattacgtgaagaataagagccaatttt--gttagattac-a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G
                                                                                                                                                                                                                                                  ATCAATAAATAACCAAAGAGTCCCATTTCTTCCTCACATTCTTTGGCAGTATAGGAAAGT 1294
                        EST(expressed sequence tag):
similar to none(May 29,1995).
Homo sapiens (library: Clonte
cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
Submitted (23-NOV-1995) Moschonas N.K.,
Biology and Biotechnology, FORTH, P.O. 1
                Homo sapiens
                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Moleculyarnaya Biologiya), 29:58-61(1995). both strands read (asymmetric PCR sequencing) no significant homology to GenEMBL entries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           K562-cDNA library normalization: Puzyrev et al.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 (bases 1 to 344)
Moschonas, N.K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryotae; mitochondrial eukaryotes; Metazo
Vertebrata; Eutheria; Primates; Catarrhini;
1 (bases 1 to 344)
Moschonas, N.K., Argyrokastritis, A. and Vront
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g1103448
EST; expressed sequence
Eukaryotae; mitochondrial eukaryotes;
                                                                                                                                HUM231B05B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X93833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSIMBB133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            h 1.8%;
Similarity 79.2%;
76; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                     96
                                                                                                                 aorta
                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                      ω
                                                                                                                                                                                                                                                                                                                                                                                                                                            /dev_stage="embryonal/fetal with expression"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                344
partial
                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="normalized K562 cDNA library"
/clone="1mbb-est 133"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/cell_line="K562 (erythro-leukemic)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                         1.5%;
                                                                                                                284 bp
cDNA 5'-end
                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA;
                                                                                                                                                                                                                                                                                                         Score 33; DB 45;
Pred. No. 1.53e-11;
0; Mismatches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 41; DB 60;
Pred. No. 2.97e-21;
                                          Clontech
                                                                                                                                                                                                                                                                                                                                                                                   72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tag.
                                                                                                                 GEN-231B05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                expressed
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                     Human aorta;
                                          human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and Vrontou, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94
Metazoa; Chordata;
                                          aorta
                                                                                                                                                                                                                                                                                                            14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вох
                                                                                                                                                                                                                                                                                                                                          Length 344;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Institute of Molecular 30x 1527, Heraklion 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                           respect to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                            Indels
                                         polyA+ mRNA (#6572))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (clone imbb-est
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Molecular Biology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
```

```
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                            JOURNAL
MEDLINE
FEATURES
                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 3
       Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1734 ATGTAAATATACAAAAAACTAGAAAGAAATATATATATAACCTTGTTATTGT 1784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6 atgtaaatyyystgaaaaactagattaamatatataactgcttgyyatggt 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1995)
Submitted (30'-May-1995) to DDBJ b;
Submitted (30'-May-1995) to DDBJ b;
Tsutomu Fujiwara
Otsuka GEN Research Institute
Otsuka Pharmaceutical Co.,Ltd
463-10 kagasuno Kawauchi-cho
Tokushima, Tokushima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vertebrata; Sarcopterygii; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 284)
Fujiwara, T., Hirano, H., Katagiri, T., Kawai, A., Kuga, Y., Nagata, M. Okuno, S., Ozaki, K., Shimizu, F., Shimada, Y., Shinomiya, H., Takadichi, A., Takeda, S., Watanabe, T., Takahashi, E.-I., Hirai, Y., Maekawa, H., Shin, S. and Nakamura, Y.
Unpublished (303)
Unpublished (1995)
                                                                                                                                                                                                            Direct Submission
Direct Submission
Submitted (27-APR-1993) to the EMBL/GenBank/DDBJ databases. J. I
MAZO, Centro de Investigaciones Biologicas, C.S.I.C., Velazquez
MAZO, Madrid 28066, SPAIN
2 (bases 1 to 285)
Lopez-Alanon, D. M. and del Mazo, J.
Cloning and characterization of genes expressed during
gametogenesis of female and male mice
gametogenesis of female and male mice
J. Reprod. Fertil. 103 (2), 323-329 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M.musculus DLA-113
X71637
                                                                                                                                                                                                                                                                                                                                                                            Eukaryotae; mitochondrial eukaryotes; Metazoa; Vertebrata; Sarcopterygii; Mammalia; Eutheria; Sciurognathi; Myomorpha; Muridae; Murinae; Mus. 1 (bases 1 to 285)
                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         expressed sequence tag; transcribed sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Phone: 0886-65-2888
Fax : 0886-37-1035
                                                                                                                                                                                                          J. Reprod. Fertil.
95341612
                                                                                                                                                                                                                                                                                                                                                                   del Mazo, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
1.2%;
Similarity 80.4%;
37; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.2%;
larity 66.7%;
Conservative
                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ø
                                                                                  /strain="Swiss"
/tissue_type="ovary"
/dev_stage="fetal"
/clone="DLA-113"
a 62 c 65 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism-"Homo sapiens"
/sequenced_mol-"CDNA to mRNA"
/clone_lib-"Clontech human aorta
27 c 104 t 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                              /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 27; DB 48;
Pred. No. 4.76e-05;
5; Mismatches 12
       Score 28; DB 51;
Pred. No. 4.53e-06;
0; Mismatches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            by:
                                                                                      70
                                                                                      ct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 284;
          9
                                        Length 285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           n polyA+ mRNA (#6572)"
24 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                  Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
            Gaps
                                                                                                                                                                                                                                                                                                                                        J. Del
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                         RESULT 9
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                     Сb
                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                              BASE COUNT
              KEYWORDS
                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                         2260
                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              œ
                                                                                                           ø
```

ş В

```
B
                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    212
                                                                                                                                                                    yg70c04.s1
CEREBELLIN
R50764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo Sapiens
Eukaryotae; Metazoa; Eumetazoa; Bilateria; Coelomata;
Deuterostomia; Chordata; Vertebrata; Gnathostomata; Osteicht
Sarcopterygii; Choanata; Tetrapoda; Amniota; Mammalia; Theri
Sutheria; Archonta; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 431)
1 (bases 1 to 431)
1 (bases 1 to 431)
1 (bases 1, Clark, N., Dubuque, T., Elliston, K., Hawkins, M.,
Hillier, L., Clark, N., Dubuque, T., Le, M., Lennon, G., Marra, M.,
Parsons, J., Rifkin, L., Rohlifing, T., Soares, M., Tan, F.,
Parsons, J., Rifkin, L., Rohlifing, T., Soares, M., Tan, F.,
Parsons, J., Rifkin, L., Rohlifing, T., Soares, M., Tan, F.,
Parsons, J., Waterston, R., Williamson, A., Wohldmann, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Wilson RK
WashUnderck EST Project
WashIngton University School of Medicine
WashIngton University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
4244 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Fal: 314 286 1810
Email: est@watson.wustl.edu
Email: est@watson.wustl.edu
High quality sequence stops: 298
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g812666
                                                  N30827 452 bp
yw70a07.s1 Homo sapiens
TUBULIN ALPHA-1 CHAIN (H
N30827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wilson,R.
The WashU-Merck EST Project
Unpublished (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDB: G00-411-262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bonaldo.
g1149347
EST.
human clone=257556 primer=m13
                                                                                                                                                                                                                                       h 1.2%;
Similarity 84.6%;
33; Conservative
                                                                                                                                                                                                                                                                                                                            130
                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/clone="38721"
/note="humap"
90 c 77 g 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               431 bp mRNA
Homo sapiens cDNA c
PRECURSOR (HUMAN);.
                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                       Score 27;
Pred. No. 4
0; Mismat
                                                                   mRNA
ens cDNA cl
(HUMAN);
                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone
                                                                                      clone
     -40
                                                                                                                                                                                                                                                          DB 86;
4.76e-05;
                                                                                                                                                                                                                                                                                                                                128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38721
     forward library-Soares
                                                                                      EST
257556 3'
                                                                                                                                                                                                                                                                                                                                rt
                                                                                                                                                                                                                                               6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST
                                                                                                                                                                                                                                                                            Length 431;
                                                                                                                                                                                                                                                                                                                                σ
                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-MAY-1995
similar to gb:M58
                                                                                                                                                                                                                                                                                                                                others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        257
                                                                                      05-JAN-1996
similar to gb:K00558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Marra, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Osteichthyes;
ia; Theria;
                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gb:M58583
                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ΒA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
```

```
mRNA
BASE COUNT
ORIGIN
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity Matches 34; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                             LT 10
HSW03788
W03788;
                          Hillier L., Clark N., Dubuque T., Elliston K., F
Holman M., Hultman M., Kucaba T., Le M., Lennon
Parsons J., Rifkin L., Rohlfing T., Soares M., T
Trevaskis E., Waterston R., Williamson A., Wohld
"The WashU_Merck EST Project";
                                                                                                                                                                                                      30-APR-1996 (Rel. 47, Created)
30-APR-1996 (Rel. 47, Last updated, Version za61g02.rl Soares fetal liver spleen lNFLS H
                                                                                                                                                                                                                                                                                                                                                            2260
                                                                                                                                           Homo sapiens (human)
Eukaryota; Animalia; Metazoa; Chordata; Vertebrata;
Theria; Eutheria; Primates; Haplorhini; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                -490
                                                                                                                                                                                                                                                                                                                                                                          17 tttttttttttttttaaaatggaaacatcaattttattaa 56
                                                                                                                                                                                                                                                                                                                                                          TTTTTTTTTTTTAAAAAGCAAGCTTCCACTTTATTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Wilson RK
WashU-Merck EST Project
Washington University School
4444 Forest Park Parkway, Box
Tel: 314 286 1810
Fax: 314 286 1810
Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Source: IMAGE Consortium, LLNL This clone is available royalty-free through LLNL; IMAGE Consortium (info@image.llnl.gov) for further
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eutheria; Archonta; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 452)

Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M.,

Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, M.

Parsons, J., Rifkin, L., Rohlfing, T., Soares, M., Tan, F.,

Trevaskis, E., Waterston, R., Williamson, A., Wohldmann, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryotae; Metazoa; Eumetazoa; Bilateria; Coelomata; Deuterostomia; Chordata; Vertebrata; Gnathostomata; Ossarcopterygii; Choanata; Tetrapoda; Amniota; Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         double stranded cDNA was size selected, ligated to Eco RI adapt (Pharmacia), digested with Not I and cloned into the Not I and RI sites of a modified pT7T3 vector (Pharmacia). Library constructed by Bento Soares and M. Fatima Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The WashU-Merck EST Project Unpublished (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality sequence stops: 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
 Wilson RK WashU-Merck
                                                                                                                                                                                                                                                                                            standard; RNA; EST;
                                                                                                                                                                                                                                                                                                                                                                                                                         1.2%;
llarity 85.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/clone="257556"
/note="human"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123 c
                                                                                                                                                                                                                                                                                                                                                                                                                       Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   School of Medicine way, Box 8501, St. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
EST Project
                                                                                                                                                                                                                                                                                            490
                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                          28;
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                           4.53e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                             ennon G., Marra M.,
M., Tan F.,
Wohldmann P., Wils
                                                                                            K., Hawkins M.,
Washington University
                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                                                                                                                                                         6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Louis,
                                                                                                                                                                                                                            sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12
                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          others
                                                                                                                                             Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              another from with a Not I
                                               Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Marra, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Osteichthyes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Theria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              I adapters
I and Eco
                                                ₹.
                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

ç 밁

/organism-"Homo sapiens"

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
FEATURES
                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ဌ
                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    School of Medicine 4444 Forest Park Parkway, Box 8501, St. MO 63108 Tel: 314 286 1800 Fax: 314 286 1810 Email: est@watson.wustl.edu This clone is available royalty-free LLNL; contact the IMAGE Consortium (info@image.llnl.gov) further information. Seq primer: mob.REGA+ET High quality stop: 334. NCBI g1: 1275785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Wilson RK
WashIn-Merck EST Project
WashIngton University School of Medicine
4444 Forest Park Parkway, Box 8501, St. L
Tel: 314 286 1800
Fax: 314 286 1810
Email: est@watson.wustl.edu
This clone is available royalty-free thro
IMAGE Consortium (info@image.llnl.gov) fo
Seg primer: mob.REGA+ET
                                                                                                                                                                                                                                                                                                                                                                        g1275785
EST
                                                                                                                                                                                                                                          Homo sapiens
Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;
Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; H
1 (bases 1 to 490)
1 (bases 1 to 490)
1 (bases 1, Clark, N., Dubuque, T., Elliston, K., Hawkins, M
Hillier, L., Clark, N., Dubuque, T., Elliston, K., Hawkins, M
Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marri,
Parsons, J., Rifkin, L., Rohliing, T., Soares, M., Tan, F.,
Trevaskis, E., Waterston, R., Williamson, A., Wohldmann, P.,
                                                                                                                                                                                                                                                                                                                                                        human.
                                                                                                                                                                                                                     The WashU-Merck
                                                                                                                                                                                                                                   Wilson, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 1.2%;
Similarity 84.6%;
33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             490
            91:
                                        quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LILLOUGH ONE round of normalization. Library constructed Bento Soares and M.FatimaBonaldo." (Clone-"297074"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <1..>490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149 A; 91 C; 64 G; 186 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="Soares fetal liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
Cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /dev_stage="20 week-post conception fetus"
/lab_host="DH10B (ampicillin resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                Soares
                                                                                                                                                                                                     ferck EST
(1995)
                                      sequence
                                                                                                                                                                                                                                                                                                                                                                                                                              bp
fetal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred.
0; M
                                        stop:
                                                                                                                                   School of Medicine vay, Box 8501, St. 1
                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA
liver
                                                                              royalty-free through LLNL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27;
No.
                                         334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the modified pT7T3 vector. Library wen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 168; Le.
. 4.76e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                              spleen 1NFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Box 8501, St.
                                                                   for
                                                                                                                                     Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             spleen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 490;
                                                                   further
                                                                                                                                                                                                                                              Wohldmann, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                        Hawkins, M.,
                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1NFLS"
                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                           19-APR-1996
                                                                   information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                        Marra, M.,
                                                                                                                                                                                                                                                                                                                   Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G08836

ON human STS CHLC.ATA21A09.P15975 clone ATA21A09.

OB836

ON G08836

ON G08836

STS sequence; primer; sequence tagged site.

STS sequence; primer; sequence tagged site.

human vector=pJCP1 host=E.coli dut+ung+ (DH10B) Marker Selected genomic DNA prepared from XY individual of French nationality.

ISM Homo Saplens

Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata; vertebrata; Gnathostomata; Osteichthyes; Sarcopterygil; Choanata; Vertebrata; Gnathostomata; Osteichthyes; Sarcopterygil; Choanata; Tetrapoda; Amniota; Mammalia; Theria; Eutheria; Archonta; Primates;

Catarrhini; Hominidae; Homo.

Catarrhini; Hominidae; Homo.

CE 1 (bases 1 to 492) v. Weber, J.L., Duyk, G. and Buetow, K.H.

RS Murray, J., Sheffleld, V. Weber, J.L., Duyk, G. and Buetow, K.H.
                                                                                                                                                                                                                                                                                                                                                                                                          Cooperative Human Linkage Center Unpublished (1995) Synonyms: ATA21A09, CHLC ATA21A09.#T15719 Contact: Dr. Jeffrey C. Murray
                                                                                                                                                                                                                                       Primer A: ATGCAATCCAGAGCTTCAAC
Primer B: ATGATAATGTGCCTGGGAGA
STS size: 337
PCR Profile:
                                                                                                                                                                                                                                                                                                                 The University of Iowa
Department of Pediatrics, Iowa City, IA 52242, USA
Tel: (319) 356-3508
Fax: (319) 355-3347
Email: jeff-murray@uiowa.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
33; Conser
                                            Buffer:
                                                                                                                                                    Protocol:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.2%;
larity 84.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <1..>490
1 91 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /dev_stage="20 week-post conception fetus"
/lab_host="DH10B (ampicillin resistant)"
                                                                       dNTPs:
Taq Polymerase:
Total Vol:
                                                                                                                                                              denature:
annealing:
extension:
PCR cycles:
extension:
MgCl2:
KCl:
Tris:
                                                                                                                   Template:
Primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 27; DB 147;
Pred. No. 4.76e-05;
0; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64 g
1.5mM
50mM
10mM
                                                                                                                                                                30 seconds at 9
75 seconds at 7
15 seconds at 7
27
6 minutes at 7
                                                                                                                                                                minutes at 72 degress
                                                                       30ng genomic DNA
each 1.5 pmole
each 200 uM
0.3 units
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  186 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 490;
                                                                                                                                                                                               55
72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                           degrees
degrees
degrees
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                               იიი
                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

٨

ç 유

ij

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
mRNA
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STS
primer_bind
primer_bind
primer_bind
count 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1519 TAATAATGATAGTTATAATAATAATAATTGAAACAATCTGAATCCCTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     270 taataataataataataataataagccctgaaanacnttgcaacccttacaa 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Wilson RK
WashU-Merck EST Project
WashUnderck EST Project
WashUnderch Est Park Parkway, Box 8501, St. Louis, MO 63108
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
Email: est@watson.wustl.edu
High quality sequence stops: 409
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL; contact
IMAGE Consortium (infodimage.llnl.gov) for further informations.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N45982 565 bp mRNA EST
Yy57b12.r1 Homo sapiens cDNA clone 277631 5'.
N45982
g1187148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h 1.2%;
Similarity 73.6%;
39; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The WashU-Merck EST Unpublished (1995)
                               194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pH: 8.3.
Location/Qualifiers
1..492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Φ
                               ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo Sapiens"
/note="human"
71.407
71.90
                            /note="human"
<1..>565
a 80 c 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement(388..407)
76 c 75 g
                                                                                                          /organism="Homo sapiens"
/clone="277631"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 27; DB 132;
Pred. No. 4.76e-05;
0; Mismatches 14
                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                103
                               188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rt
                               cŧ
                                                                                                                                                                                                                           through LLNL; contact the c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 492;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                others
                                  others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
ဌ
                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ტ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ဌ
                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                      Matches
 2260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1906 TTTCT 1902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        486 tttct 490
           17 tttttttttttttttgaaaccaag-ttcatctttatttaaagg 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDB: G00-413-181
Contact: Wilson RK
Washu-Merck EST project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. L
Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryotae; Metazoa; Eumetazoa; Bilateria; Coelomata; Deuterostomia; Chordata; Vertebrata; Gnathostomata; Ostelo Sarcopterygii; Choanata; Tetrapoda; Amniota; Mammalia; The Eutheria; Archonta; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 144)
                                                                                                                                                                                                                                                                                                                                                                                                            Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M., Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra, Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F., Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P. an
                                                                                                                                                                                                                                                                                                                                                                         The WashU-Merck EST Project Unpublished (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  yg90a03.s1
R56208
                                                                                                                                                                                              This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                          High quality sequence stops: 106
Source: IMAGE Consortium, LLNL
                                                                                                                                                                                                                                                     Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                   Wilson, R
                                                               h 1.18;
Similarity 84.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     h 1.2%;
Similarity 70.8%;
46; Conservative
                                                                                                                       37
                                                    Conservative
                                                                                                                      ø
                                                                                                                   /note="human
22 c
                                                                                                                                             /organism="Homo sapiens"
/clone="40640"
                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens cDNA clone 40640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ģ
                                                              Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 27;
Pred. No.
                                                   0;
                                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA
                                                                                                                    g
                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No. 4.76e-05; Mismatches 19
                                                                 NO ;
                                                               DB 87;
4.29e-03;
                                                                                                                      64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 60;
                                                                                                                      4
                                                                                                                                                                                                                                                                                                                                                                                                                e,M., Lennon,G., Marra,M
Soares,M., Tan,F.,
son,A., Wohldmann,P. and
                                                                                                                                                                                                                                                                                            St. Louis, MO 63108
                                                   6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 565;
                                                                            Length 144;
                                                                                                                    w
                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                      others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Osteichthyes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>,</u>
                                                   ۳,
                                                                                                                                                                                                                                                                                                                                                                                                                                           Marra, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Theria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                   Gaps
                                                   ۲;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

RESULT

```
ç
                                                                                                                                                                               Search completed: Mon Job time: 1113 secs.
                                                                                       밁
                                                                                                                 Query Match
Best Local S
Matches 3
                                                                                                                                                                              mRNA
Sequence
                                                           2260
                                                                                                                                                                                                                                                                                              Contact: Wilson RK WashU-Merck EST Project Washington University School of Medicine 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108 Tel: 314 286 1800 Fax: 314 286 1810 Email: est@watson.wustl.edu High quality sequence stops: 134 Source: IMAGE Consortium, LLNI This clone is available royalty-free through LLNI; contact the IMAGE Consortium (info@image.llnl.gov) for further information. NCBI gi: 1265242
                                                                                                                                                                                                                                                                                                                                                                                                                    Hillier L., Clark N., Dubuque T., Elliston K., Hawkins M., Holman M., Hultman M., Kucaba T., Le M., Lennon G., Marra M., Parsons J., Rifkin L., Rohlfing T., Soares M., Tan F., Trevaskis E., Waterston R., Williamson A., Wohldmann P., Wilson "The WashU-Merck EST Project";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HS933319 standard; RNA; EST; 186 BP. N92933; 18-APR-1996 (Rel. 47, Created) 18-APR 1996 (Rel. 47, Last updated, Version 1) 2557e06.s1 Homo sapiens cDNA clone 307714 3'.
                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Animalia; Metazoa; Chordata; Vertebrata; Mammalia;
Theria; Eutheria; Primates; Haplorhini; Catarrhini; Hominidae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
                                                                                       œ
                                                           TTTTTTTTTTTTAAAAAGCAAGCTTCCACTTTAT 2224
                                                                            h 1.1%;
Similarity 83.8%;
31; Conservative
                                                                                                                                                                               186
                                                                                                                                                                            BP;
                                                                                                                                                                                          /organism="Homo :
/clone="307714"
/note="human"
<1 .>186
               Feb
                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                            42 A;
               10 23:14:09 1997
                                                                                                                                                                              64 C;
                                                                                                                 Score 25; DB 166;
Pred. No. 4.29e-03;
0; Mismatches 6
                                                                                                                                                                              24
                                                                                                                                                                                                                                      sapiens"
                                                                                                                                                                              G; 55 T; 1 other;
                                                                                                                    6
                                                                                                                                               Length 186;
                                                                                                                    Indels
                                                                                                                   0
                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                     70
:
:
                                                                                                                   0
```

.

MIS PACE LEFT BLAM

		0.00e+00 8.94e-10 1.52e-06	Human methylthioadeno S.pombe chromosome I Caenorhabditis elegan	HSU22233 SPAC16C9 CELB0228	2269 56 14071 48 38946 25	100.0 4.1 1 3.7 31	849 35 31	ω N ⊢	0.0
		ed.	Description	Ħ	Length DB	ery	ore	Result No.	. 🛪
			2S	SUMMARIES		•			
		% a printed,	s predicted by chance to have e score of the result being potential score distribution.	esult to th	umber or ec analys	No. is the n greater than derived by	Pred. No. score greand is de	ar ar	
			.043; scale 2.728	Variance 4	11.029;	Mean 1	cs:	Statistics:	St
		, ABG	84:INV2 85:MAM 86:VRT 87:PAT 88:PHG 91:ROD 92:STR 93:SYN 94:UNA 95:VRL	V1 84:INV2 I 91:ROD 9	BCT 83:INV1 PLN 90:PRI 9146_94 part1	82:BCT 83:1 89:PLN 90:F u-emb146_94 96:part1	!! !	Database	D S
	·	29: INV5 36: VRT2 43: PLN2 50: PRI1 57: PRI8 70: ROD8 : VRL4	27: NO.3 28: INV4 27: INV3 38: YRT1 41: PHG 42: PLN1 48: PLN7 49: PLN8 48: PLN6 56: PR17 55: PR16 56: PR17 112 62: PR113 63: 68: RODG 69: ROD7 : VRL2 76: VRL3 77	T8 24:BCT9 25:INV1 26:INV2 27: VA 26:INV2 26:I	178 24:178 31:178 34:1776 31:178 38:181 38:1	23: BCT8 30: INV6 30: VRT3 37: VRT3 37: VRT3 51: PRI2 58: PRI9 58: PRI9 64: ROD2 71: VRI5 71: VRI5 78: VRI5		Database:	D.
			13:SYN 14:UNC 15:VIR	RO2 12:ROE	94 17.1	10:PRO1 genbank94	::	Database	Ď
		N 9:PRI ·	5:ORG 6:MAN	:FUN 3:INV1 4:I	2:FUN	embl-new5 1:BCT 2:		Database:	Ď
			, o u	0% 45 summaries	first	: Minimum Listing	Post-processing:	ost-pro	g
			bases x 2	411808665 b	seqs, 4	279077	:	Searched:	Se
				у 0	0; Query	Dbase (STD :	Nmatch	¥
					efault	TABLE d	table:	coring	S
		RAGACAT 970 STTCTGTA	.1.seg (2 of 2) CACCTGTTTTATTACCAAGACAT GTGGACAAAATAATGGTTCTGTA	674-311-1 0) from US08674311.s aTGGCCTCTGGCACCACCAC TACCGGAGACCGTGGTGGTG	674-311- 0) from ATGGCCTC TACCGGAG	>US-08-674- (122-970) 1 849 122 ATGG	Title: Description: Perfect Score: N.A. Sequence: Comp:	Title: Descript Perfect N.A. Sec	N P D T
		updates/sec	34 Million cell		ated;	not generated	output :	Tabular	Ŧ
			MasPar time 616.28 Sec	44:01 1997	10 23:	Mon Feb		ın on:	Run
		gorithm	using Smith-Waterman al	se search,	database	n.a.	ın n.a	MPsrch_nn	M
		U.K.	Biocomputing Research Unit. University of Edinburgh, IntelliGenetics, Inc.	Collins, B 1994, 1995 rights by	2.1D John F. t (c) 1993, 1 Distribution	se 2.1D (lght (c) bistr	Release 2. Copyright Dj		
		*	**					* * * *	
		******		'	- *] ‡		*	
_									

: 4	n	0 0	a	0 0 0 0 0 0 0 0 0	000
	4 3 3 3 3 3 5 0 9 8 7 6 5	3333333	22222222	11111111111111111111111111111111111111	4006
	2222222	222222	222222222	488888888888888888888888888888888888888	27 24 24
พพัพพพ				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
40592 43410 43410 119704 119704	11392 30570 33950 37172 37172 38383	4107 4107 5426 8124	1153 1153 1890 2049 2458	29095 42528 42528 12500 12500 12500 12500 12500 12500 100000 1000000 1000000 1000000	5550 3205 3625 9152
				143L0 800000000000000000000000000000000000	560 400 400
HSL191F1 CEC01G6 OSCHLPLXX OSCHLPLXX	DPGART HS91K3A CEF37B12 SPAC22E12 SPAC22E12 CEF35H8	MM20238 MM20238 MMU20238 HUMKIAA08 CALMYCG PMUNC2	. "-	01	RRCYTBC1 HUMNFKB34 HUMNFKB HSNFX1112
Human DNA sequence fr Caenorhabditis elegan Caenorhabditis elegan O.sinensis chloroplas O.sinensis chloroplas	Drosophila pseudoobsc Human DNA sequence fr Caenorhabditis elegan S.pombe chromosome I S.pombe chromosome I Caenorhabditis elegan	us GTPase- us GTPase- for KIAAO jacchus M	Mus musculus purine n C. thermaceticum 16S r M. musculus Np-b mRNA D. vulgaris gene for p Plasmodium berghei he Bovine mRNA for carti A. calcoaceticus estA	enorhabditis elega enorhabditis elega emophilus influenz s musculus D-type emophilus influenz emophilus influenz emophilus influenz enorhabditis elega enorhabditis elega enorhabditis elega enorhabditis elega emophilus influenz oD-transcriptional oD-transcriptional falfa nodulin mRNA	R. rubrum cytochrome Human factor KBF1 mRN Human nuclear factor H.sapiens NFKB1 gene
0,0,0,0,0	0,0,0,0,0	0,0,0,0,0	, თ, თ, თ, თ, თ, თ,	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000

ALIGNMENTS

Univ Aven FEATURES	JOURNAL Subm	AUTHORS Olop	REFERENCE 2 (MEDLINE 9532	JOURNAL Proc	from	and	TITLE Cons	Bohl	III.	AUTHORS Olop	REFERENCE 1 (Homo.	Vert	Euka	ORGANISM Homo	SOURCE human.	KEYWORDS .	NID 9847723	ACCESSION U22233	DEFINITION Huma	LOCUS HSU22233	RESULT 1
<pre>University of Chicago Pritzker School of Medicine, 5841 S. Maryland Avenue, Chicago, IL 60637-1470, USA Location/Qualifiers</pre>	Direct Submission Submitted (06-MAR-1995) Olufunmilayo I. Olopade, Medicine,	Olopade, O. I.	(bases 1 to 2269)	95327672	Proc. Natl. Acad. Sci. U.S.A. 92 (14), 6489-6493 (1995)	the tumor suppressor region on 9p21	and cloning of the human methylthicadenosine phosphorylase gene	Construction of a 2.8-megabase yeast artificial chromosome contig	Bohlander, S.K.	III., Dreyling, M.H., Gursky, S., Stadler, W.M., Le Beau, M.M. and	Olopade, O.I., Pomykala, H.M., Hagos, F., Sveen, L.W., Espinosa, R.	(bases 1 to 2269)		Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;	Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;	Homo sapiens	n.		723	33	Human methylthioadenosine phosphorylase (MTAP) mRNA, complete cds.	2233 2269 bp mRNA PRI 25-NOV-1995	

961 961 901 901 841

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 849; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                           782
                                                                                                 722
                                                                                                                                                      722
                                                                                                                                                                                                               662
                                                                                                                                                                                                                                                                 662
                                                                                                                                                                                                                                                                                                                      602
                                                                                                                                                                                                                                                                                                                                                                            602
                                                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                ctccggtgccactcaaaggggacaatggtcacaatcgagggacctcgttttagctcccgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tatgactgctggaaggagcacgaggaagcagtttcggtggaccgggtcttaaagaccctg
                                                                                       gcagaaagcttcatgttccgcacctgggggggggatgttatcaacatgaccacagtttcca
                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGAGCCGTTTTGCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          gctgagccgttttgccccaaaacgagagaggttcttatagagacttgctaagaagctagga 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cctcagtccttctatgatggaagtcattcttgtgccagaggagtgtgccatattccaatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gagattcagcccggcgatattgtcattattgatcagttcattgacaggaccactatgaga 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttgaaggaagagggctgtacacatgtcatagtgaccacagcttgtggctccttgagggag 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               catggaaggcagcaccatcatgccttcaaaggtcaactaccaggcgaacatctgggct 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccatctgatgccttaattttggggaagataaaaaatgttgattgcatcctccttgcaagg 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAGAAAGCTTCATGTTCCGCACCTGGGGGGGCGGATGTTATCAACATGACCACAGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGTGCCATATTCCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAGA 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGAAGGAAGAGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCCTCCTTGAGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATGGAAGGCAGCACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGCT 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCATCTGATGCCTTAATTTTGGGGAAGATAAAAAATGTTGATTGCATCCTCCTTGCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="methylthioadenosine phosphorylase"
/db_xref="pig847724"
/db_xref="pig847724"
/db_xref="pig847724"
/translationin-"MASGTTTTAVKIGIIGGTGLDDEILEGRTEKYVDTPFGKPSDA
/translation="MASGTTTTAVKIGIIGGTGLDDEILEGRTEKYVDTPFGKPSDA
/translation="MASGTTTTAVKIGIIGGTGLDDEILEGRTEKYVDTPFGKPSLEEI
/translation="MASGTTTTAVKIGIIGGTGCANTAVAKIKNVACHIPMAEPFCPKTREVLIETTAKKIG
LPCHSKGTMTIEGPRFSSRAESFMERTWGADVINMTTVPEVVLAKEAGICYASIAMA
TDYDCWKEHEEAVSVDRVLKTIKENANKAKSLLLTTIPQIGSTEWSETLHNLKNMAQF
SVLLPRH"
407 c 490 g 647 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /sex-"male"
/cell_line="primary culture"
/cell_type="fibroblast"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="MTAP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="epidermis"
122..973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /chromosome="9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1..2269
/clone="18-11 cDNA"
/map="9p21"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 849; DB 56; L
Pred. No. 0.00e+00;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 2269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                     841
                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
            CDS
                                                           misc_feature
                                                                                                                                                                                                                                                                                    source
                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccaagacat 970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAAGACAT 970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACAGAATGGTCAGAAACCCTCCATAACCTGAAGAATATGGCCCAGTTTTCTGTTTTATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acagaatggtcagaaaccctccataacctgaagaatatggcccagttttctgttttatta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAAGAAAACGCTAATAAAGCCAAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aaagaaaacgctaataaagccaaaagcttactgctcactaccataccctcagatagggtcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCTG
                                                                                                                                                                                                                                                                                                                                   The more significant matches with motifs in the PROSITE database are also included but some of these may be fortuitous. The length in codons is given for each CDS.

The PROFINAT: This sequence MAY NOT be the entire insert of the sequenced clone. It may be shorter because we only sequence overlapping sections once, or longer, because we arrange for a small overlap between neighbouring submissions.

Cosmid c1609 is overlapped by cosmid c468 at the 5' end and by cosmid c2611 at the 3' end.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein coding regions (CDS) have been predicted with the help of computer analysis using the Genefinder program in PomBase (an ACEDB database) with additional predictions for the branch acceptor sites supplied by the program Sp3splice. CAUTION: It is possible that for any individual CDS we may have underestimated or overestimated the number of introns/exons or we may not have chosen the correct splice donor/acceptor sites.

Sp3splice donor/acceptor sites.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPAC16C9 14071 1
S.pombe chromosome
Z54366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission Submitted (12-OCT-1995) to the EMBL/GenBank/DDBJ databases. Schizosaccharomyces pombe chromosome I sequencing project, Centre, Hinxton Hall, Hinxton, Cambridge CBIO 1RQ E-mail:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Schizosaccharomyces pombe
Eukaryotae; mitochondrial eukaryotes; Eumycota;
Archaeascomycetes; Schizosaccharomycetales;
Schizosaccharomycetaceae; Schizosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (URL, http://www.sanger.ac.uk/
yeastpub/svw/home.html)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (URL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 14071)
Barrell, B.G., Rajandream, M.A. and Walsh, S.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 (bases 1 to 14071)
Badcock, K. and Churcher, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAK32 protein homologue; NAM7 protein serine/threonine protein kinase; zinc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the World Wide Web.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Details of yeast sequencing at the Sanger Centre are available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             barrell@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fission yeast.
/note-"overlap with 4G8"
complement(96..101)
/note-"splice donor sequence, gtaagt"
complement(join(>100..179,217..256))
                                                                                                                 /chromosome="I"
/clone="cosmid c16C9"
/map="IL"
1...267
                                                                                                                                                                                                                              /organ1sm="Schizosaccharomyces/strain="972h-"
                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14071 bp DNA omosome I cosmid c16C9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        homologue; NOT4 homologue;
finger protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-OCT-1995
```

Sanger

g

g Ş

õ

δÃ 밁 δÃ 밁 δÃ

В Ş 밁 Š g δÃ 밁 δõ В δõ 밁 Š 밁

밁

```
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="splice donor sequence, gtamaa"
complement(672..682)
/note="splice branch and acceptor sequence, ctamacacttag"
/note="splice branch and acceptor sequence, ctamacacttag"
complement(join(777..1037,1137..1697,1747..1848))
/gene="spaciace".02c"
/note="spaciace".02c, unknown, len: 307, similar to
SW:YPE2_RHORU P23139 hypothetical 25.8 kd protein (46.9%
identity in 128 an overlap); pid:e204616"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="splice branch and acceptor sequence, ctaacgttttattcag" complement(1741..1746) /gene="spac1609.02c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="pid:g1019815"
/translation="momdsgsgsvafqpsepiastilccecgyptppnaaamgmdcik
/translation="momdsgsgsvafqpsepiastilccecgyptppnaaamgmdcik
/translation="momdsgsgsprafqppnammiaplesrelmaiclkklrglnqvrlv
/tritsgiprestvnhcrecertyvtilcosfqveeyvnntqcpdcartytphimk
Danftwteplasrrikvkltvokeaftyvtilcosfqveeyvnntqcpdcartytphimk
AVCQVRQKVLHKRTFLYLEQIILKHKAHMNTVNIKETRDGIDFYFGQRahAIKHVEFL
SAVVPIRYKGSEELISEDFKSNTANYKFTYSIEIVPICKDDLVCLPKTVAKAHGNIAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="SPAC16C9.03, unknown, len: 498, similar to SW:YHX0_YEAST P38861 hypothetical 59.1 kD protein identity in 494 aa overlap); pid:e204617"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="SPAC16C9.02C"
/note="splice donor sequence,
complement(1698.1713)
/gene="SPAC16C9.02C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="SPAC16C9.01c, partial spliced CDS, len: >39,
similar to SW:MK32_YEAST P23060 MAK32 protein (46.7%
identity in 30 aa overlap); pid:e204615"
                                                                                                                                                                       /note-"SPAC16C9.04c, regulatory protein, len: 489, similar to SW.NOT4_YEAST p34909 general negative regulator of transcription subunit 4 (NOT4) (38.8% identity in 417 aa overlap); pid:e204618"
                                                                                                                                                                                                                                                                                                           complement(join(5081..6317,6406..6585,6636..6688))
/gene="SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                               LVVCTKVGPTIRFLDPLTLQTCDMLPSIYWRTPFPALADIPELTEFIVADVDLLGPTN
GKYALADVELIKSSDGSTHLTRTHLGGILNAGNTVLAYHLAVTNENNEVYDTLREDSI
PEVVIVKKTYPQTKKKNRNWRLKTIGMQKAEDVKKQDIERQERDYELFLQNLEEDPEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MATDYDCWRMNEEPYTYETYMEHISNNKDNAKIFLLEAVKKLEAPLLQGFLGRNLRES
VQNGIQTNHKHRNPDAIRRLQFLFPNLTIPH"
complement(1038..1051)
/gene-"SPAC16C9.02c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product="unknown"
/db_xref="PID:g1019814"
/db_xref="PID:g1019814"
/trans1ation="MNKQAEPILLGVIGGSGFYDLPGFDIVESVNPITPWGYPASPIS
/trans1ation="MNKQAEPITYPTEVPSRANIAALKSLGVLAIVSFSAVGSLREDIP
IARTTSGFLIAFLARHGYGHYYTPTEVGCVAHVSFGDPFDQDLYEILSSCGSNLKNGSKL
PEDFVLPTQIIDRTLCARPNTFFESGCVAHVSFGDPFDQDLYEILSSCGSNLKNGSKL
HTKRRGDDLTVVCMEGPAFSTRAESNLYRSWGASIINMSVIPEAKLAREAEIAYQMVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="splice branch and acceptor sequence
ctaacgaatgcaag"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="SPAC16C9.01c"
   CWHHIKEDLNGRCPACRRLYTEENVQWRPVTAEEWKMDLHRKNERKKREKERKEVELS
                                                                                                                                                                                                                                                                                                                                                                                  RQGVNLYKAPVKAIAVADTDMDEEDEVDEDIPQISVDELLDDVEAMHI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complement(1131..1136)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ttaacaaaaaatag"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="SPAC16C9.01c"
/note="SPAC16C9.01c,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="SPAC16C9.03"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="splice donor sequence, gtatga"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                          /product="unknown"
                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="splice branch and acceptor sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="SPAC16C9.01c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              translation="MDYPSKDVEFVTTGMFIIDEIEFDGGKKIKDIIGGAGSFG"/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="PID:g1019813"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="unknown"
                                   translation-"MLKTQEIYSSEDEDDMCCPLCMEEIDISDKNFKPCQCGYRVCRF/
                                                                          'db_xref="PID:g1019816"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (54.9%
                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
ç
                                                                       밁
                                                                                                                                           Matches
```

g

Sg

```
Query Match 4.18;
Best Local Similarity 62.18;
                                                            1136 ctgtagccatgcaaaccatttggtaggcaatctcagcttcggggggctagtttggcttcgg 1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
     779
CTGTCGCCATGGCGATACTTGCGTAACAAATTCCAGCCTCCTTAGCAAGAACCACCTCTG 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4537
                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="SPAC16C9.06c, len: 935, similar to SW:NAM7_YEAST p30771 NAM7 protein (UPF1 protein) (51.0% identity in 931 as overlap); contains PS00017 ATP/GTP-binding site motif A (P-loop); pid:e204620"
/product="unknown"
complement(10913.10936)
/gene="SPAC16C9.06C"
/note="PS00017 ATP/GTP-binding site motif A (P-loop)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="PID:g1019818"
/trans1ation="MYGLISTSETLPKOESKSSSAPVSNFLSPNNLTEOTCSPLRAHS
/trans1ation="MYGLISTSETLPKOESKSSSAPVSNFLSPNNLTEOTCSPLRAHS
TFKEPVFLLSQRQYSHNSKILTELINSVKRPNKPDQNEEKSAVGIEEKSFKDEHLAQK
KGLHHFADLKEIFLJKNLSTLDGLQDASLHDNIQSGKLDNPVISQNREIVLEKLANPN
SKKEYETIPTVENRHPLNKLSKTKTLAYEETINQLDETPGGTNYPMNKKKTLSSETNK
YEYPQQSKFHECSQFASPRSSIVNGPRTLGKNSKRADDTARMASRMKPSNFNNNIQSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="SPAC16C9.07"
/note="SPAC16C9.07, len: > 329, partial orf, overlaps cosmid c2G11 orf SPAC2G11.01, putative serine/threonine protein kinase; pid:e204621"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSTDHVNVLPISQDKEMDISSPVKKQKASYSNKSPNKAPIQKSRGSSLKSHLETESQQ
TPVKRRRKATIRNVDYCSACGGRGLFICCEGCPCSFHLSCLEPPLTPENIPEGSWFC
VTCSIKSHHPPKHPLSUGACGGRGLFICCEGCPCSFHLSCLEPPLTPENIPEGSWFG
VTCSIKSHHPPKHPLSUGACHWIDSQNPSQYRLPDDLVHFHFISRGCKEHAKKCS
GEMOTDEFSALPTGSSITNLAYCGYCSKPSMGACWYGCQLCDTFYHKNCKEHAKKCS
HDSIGKKGMRVPKNAVVIRTPLVLDTSNTLMPKVMLSGWQFLMGEFPSDELLYFPRL
PVSCLYKVSEDGLIKDFLYAIGIEAKKFNNERKKRELEVIPPDVKSALLPARTHPNLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ttaactgacaattgcaacag"
complement(6630..6635)
/gene="SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="splice donor sequence, complement(6586..6605)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="splice branch and complement(6400..6405)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NRKHLANIRVVOKNLAYVNGLSPKVANEENINVLKGPEYFGQYGKIIKIAINKKAAAN SANGHYGYIIYQRKEDAARA TAAIDGSYSDGRHLRASYGTIKKCTSYLENQOCPNPS SANGHYGYIIYQRKEDAARA TAAIDGSYSDGRHLRASYGTIKKCTSYLENDOCPNPS CMYLHEPGDEVDSYTKEDLASKOHTRELSTKENVNGATHSPSPSLPFKTPLLPVTT PLEEANSSPAAONQHIITVDHYHPQVSMTPSLSTNNTATSVPAFYSSAASYNVVDGHA TIILHHEESSALPPTAAWAKLSPSVLQERLRAAVNQQPLDALKSSSTQTSIPKIQKLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="SPAC16C9.07"
/note="overlap with cosmid c2G11"
2552 c 2494 g 4488 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13963..1407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYGHASQSTKLTSQRDNDHQKDLNFSPYKSIPLNNRPYSPMSEIVGFSGSTTP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complement(9398..12205)
/gene="SPAC16C9.06c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="SPAC16C9.05"
/note="SPAC16C9.05, unknown, len: 404, possible zinc
/note="SPAC16C9.05, unknown, len: 404, possible zinc
/note="SPAC16C9.05, unknown, len: 404, possible zinc
/note="SPAC16C9.05"
/note="
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complement(6318..6330)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAKLPSEEENTTKWLNKAINDLVSSLSKINFSTEGTEFDKKQIEMIQNLPPLFVFNAR
SVIDKEVVPEQEKSAENQPPTSLGINNGNPVMPPPGFQS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IALRTLFNKART"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="unknown"
/db_xref="PID:91019817"
/translation="MASSINNSSQPTVPSISNNSHGDSFVNEGPPSNFKNNSLTSSTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'product-"unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'note="splice donor sequence, gtatgt"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'note="splice branch and acceptor sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /gene="SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "gene="SPAC16C9.04c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="SPAC16C9.04c"
                                                                                                                                                                                                      Score 35; DB 48;
Pred. No. 8.94e-10;
0; Mismatches 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acceptor sequence,
                                                                                                                                                                                                                 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtatgt"
                                                                                                                                                                                                                                                                                                               Length 14071;
                                                                                                                                                                                                           Indels
                                                                                                                                                                                                           0
                                                                                                                                                                                                           Gaps
```

CDS

Sg

```
JOURNAL MEDLINE REFERENCE AUTHORS TITLE JOURNAL REFERENCE AUTHORS TITLE JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 3
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Caenorhabditis elegans strain-Bristol NZ.

Caenorhabditis elegans

Elkaryotae; mitochondrial eukaryotes; eukaryote crown group;

Metazoa/Eumycota group; Metazoa; Eumetazoa; Bilateria;

Pseudocoelomata; Nematoda; Secernentea; Rhabditia; Rhabditida;

Rhabditina; Rhabditodea; Rhabditidae; Caenorhabditis.

CE 1 (bases 1 to 38946)

RS Wilson, R., Ainscough, R., Anderson, K., Baynes, C., Berks, M.,

Bonfield, J., Burton, J., Connell, M., Copsey, T., Cooper, J.,

Coulson, A., Craxton, M., Dear, S., Du, Z., Durbin, R., Favello, A.,

Fulton, L., Gardner, A., Green, P., Hawkins, T., Hiller, L., Jier, M.,

Johnston, L., Jones, M., Kershaw, J., Kirsten, J., Lialster, N.,

Latreille, P., Lightning, J., Lloyd, C., McMurray, A., Mortimore, B.,

O'Callaghan, M., Parsons, J., Percy, C., Rifken, L., Roopra, A.,

Saunders, D., Shownkeen, R., Smaldon, N., Smith, A., Sonnhammer, E.,

Staden, R., Sulston, J., Therry, Mieg, J., Thomas, K., Vaudin, M.,

Walkinson-Sproat, J. and Wohldman, P.

2. Ab of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gcgtactaaatgcaggaccctccat 1280
| | ||||| ||| |||| ||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGAGCTAAAACGAGGTCCCTCGAT
                                                                                                                                        Coding sequences below the program Genefinder
                                                                                                                                                                                                                                                     The 5' cosmid is overlap. Actual CELB0228; actual
                                                                                                                         preparation)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence of C. elegans cosmid B0228 Unpublished (1994)
3 (bases 1 to 38946)
Waterston,R. Direct Submission
Submitted (21-MAR-1995) Robert Waterston Submitted by:
                                                                                                                                                                                                                                                                                                                                                                  NEIGHBORING COSMID INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nature 368 (6466), 32-38 (1994)
94150718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CELB0228 38946 bp DNA
Caenorhabditis elegans cosmid B0228.
U23168
9726361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Leimbach, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 38946)
/organism="Caenorhabditis elegans"
/strain="Bristol N2"
/strain="Bristol N2"
/oin(56..502,1135..1583,1735..2017,2219..2342,2390..2842,
                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                            Genome Sequencing Center
Department of Genetics, Washington
St. Louis, MO 63110, USA, and
Sanger Centre, Hinxton Hall
Cambridge CB10 IRQ, England
e-mail: rw@nematode.wustl.edu and j
                                                                                                                                                                                                                                           B0495, 8001 bp overlap;3' cosmid is C06A8, 750 start of this cosmid is at base position 4495 cend is at 6105 of CELC06A8
                                                                                                                                        (P. Green and
                                                                                                                                        from computer analysis, using L. Hillier, ms in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ANI
                                                                                                                                                                                                                                                                                                                                                                                                                                               jes@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   University,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAR-1995
```

```
2988..3076,3122..3241,3287..3355,3404..3472,3519..5054,
5181.5318)
/gene="noise" and state of the control of th
```

CDS

/@vidence=not_experimental
//exidence=not_experimental
//db_xref="PID:9726364"
//translation="MEESWSAVECKRRSSSIDRASLKLRASQEEVCTGFWNTSKGEST
RTTILORTKSVESWCLKTKSASSTSIDWESDCORATVSOTISTEIASHRREIVAAAFG
ISTQSLERLLKFVEIIDWENITMIVSQKEOLSANLQALTSAFVNLDIFSDLGRIVAPA
EQDAVSDLIMMERAESRVEAQLRASADETTIREVALGSMSQLEQAAFMSLLITSVSRC
ERDERVVKTIKDRWSFKHSLSVSGVMKRESKKEHSSKKFTSSEEEIIGGFWRG
DLRTIAPSHIJANTEIFYDVAEEKMSVSGVMKRESKKEHSSKKFTSSEEEIIGGFWRG
ERDERVVKTIKDRWSFKHSLSVSGAASSTSENVSLGMRKADQKSEFTISQKLSPKEI
VSEAYGVSESKLDQFFQVMEKMDWSULELGEKEHTALSANLFTLAPEQKVUDGIIGKL
KAPKQODESYGTOLOFTGVMEKMDWSULELGEKEHTALSANLFTLAPEQKVUDGIIGKL
KAPKQODESYGTOLOFTGVMEKMDWSULELGEKEHTALSANLFTLAPEQKVUDGIIGKL
KAPKQODESYGTOLOFTGVMEKMDWSULELGEKEHTALSANLFTLAPEQKVUDGIIGKL
KAPKQODESYGTOLOFTGVMEKMDWSULELGEKEHTALSANLFTLAPEQKVUDGIIGKL
KAPKQODESYGTOLOFTGVMEKMDWSQISLPAQHAIISSKKKKEREPVLQTVESF
WNTTNDQEKKAVLLMEKIDSIYSSLNTLASSENKTISSSEKKKKEREPVLQTVESF
WNTTNDQEKKAVLLMEKIDSIYSSLNTLASSENTISSSETFSRIFENKKATLTNUV
GFWRTASDKKVGAIICEKLKSHHTLHTHALTHALTGVELSTDIQKEQOKLSTHHFYKL
STRUVQAAFRISSESSOVHLLTLVEKKUMVSSEMSNTISSSETFSRIPENKKATLTNUV
GFWRTASDKKVGAIICEKLKSHHTLHTHALTHALTGVELSTDIQKEQOKLSTHHFYKL
STRUVQAAFRISSESSOVHLLTLVEKKUMSKIDLVESSVUSSUNGALATSSITLF
IGKLMAPEQAAFTSHELLEKKTAAAVANVKAAVESVISSUNGALATSSITLF
IRSTSASCETEKALTVKEKLETVTAAKOILANVASVSKELIGSSEGLALASIKSITLF
TREVISANGERASFTSHELLEKTVAAKOILANISGLEKESSINGNLASIKSITLF
WSTASCETEKALTVKKUMSDISLEEKLHQUISSNVEVLADSSVUCDSII
GKLMAPEQGATETISHDLICKUNKUMSDISLEEKLHQUISSNVEVLADSSVUCDSII
GKLMAPEDGSAVBIIMBGORKLTVVSIGSALSESTLAGATSSUTSSETEKNIDKAA
REVVAAEEGIANGESTORSEFGRDILEVIANIKSAVSSVISNSSILEKTESOKSPOKSIR
SINGASFOKASLVIRGATSHADANVKAAVESVISNSNITSSETENLEGOKSPOKSIR
SINGASFOKASLVIRGATSHADANVKAAVESVISNSNITSSETEKAVLADSSVUCDSII
GKLMAPEDGSAVBIIMBGORKLTVVSNIGSAIESVITASSULKAIKSTILASSCOSGIIG
KLMAPDDOSAVBLITANDSCORDALFOLTOVSNIGALSENDEVLADSSVUCDSIIG
KLMAPDDOSAVBLITANDSCORDALFOLTOVSNIGATELAYGSLUKATSOLALBSOLTFRE
ILCAAFGLSNEGIOGTFRELDEVDWSHDIPGALLSVANDANVFGNLIS
FREDENGTSTULEEKNRIGOTFREDEVDWSHDIPGALLSUNGALARSIQLTPRE
ILCAAFGLSNEGIOGTFRELDEVDWSHDIPGALLSUNGALARSIQLTPRE
ILCAAFGLS

မှ 밁 ç

251

RESULT

cytochrome

cl; petA gene;

Rhodospirillum

sequencing of

S. C

용

Note: remainder of

Query Match 3.7%; Best Local Similarity 65.0%; Matches 67; Conservative

```
TSELTKLSMNEEVAGVRAVSETTNETFRGYQQGDVEVQTGAAMGRIEAPRPQAGEAEI
TQKLRRTLSVERSAKASEMAESQTVTQIQKREDSLASETSVRDTLLLKSSSVSHYATE
QMSHLJVMRKKEHHISEKLGERLIEKESFSQGET ISBNQGVHTHDVIDNURDALIC
WKSSETEQKSLDAKQVTEELAGTTLDLSVRLLGGTDEEKLAEHVLVGASEVLNISETR
ADMEMSRQDAFSDDATVASDILEERSLSTVHEFGESEASTTFGVGKLVTKKPEKEEV
GRSTSTERKLSQFSDITAISETTDMDSELIRLPECDQSVTLISHKNQOKDVKDLKAT
VENTADQVILLEKREVERQSADVKKKREVEDIEEVLPMLRRWAELLSMKASTSVEIQ
AENKLSKPEAQAESQKYLKTANLEINKLNVNATHEEVMSATTALECKTSGQDVASIRL
RDKSREFVEKKYQENQWNLLSTNAEWEILLNDLEDSVTIAOSVQDSMAFSVKASATVN
LNSDTSIKKAQPEIGIOKSIGOSNYEKTVGGFSSATIGNELLTVTRAGMDLEEIETLVD
EINREQAVGGRIREFGKSETGGGIYLVRRALPKVKETSTHTVTVATSFRQIFSTWSAG
DEISEANVELTIPSTSVGAEIKSTVARSDSMTFSTSHASETTATTVATSFRQIFSTWSAG
TAARKKAIPTERTSQKLKEVGADGIEILSLWEGIETDLDATTQLVDLRVVKSEIDTTATS
SEEVERINQYLEMPEEKGLVHLINVONKETGERNFAVSICSLDTVHSRKSEIPTYT
SENENDENTETSTYNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KINCEMKECVETTCTGYTEMKEDDAEITTESALLGTLSTCDLVWASSHIQDSKID
YYRRPAPKNAETTETESNADAESLALQEAGEVYSSGINGTVSNSDAAKTTVSDKLISI
SKTEMSKAVSENAVNQDHSLKKDSIEAVEMNIPDSRKEILQKNYSIDRSKTTVSDKLISI
SKTEMSKAVSENAVNQDHSLKKDSIEAVEMNIPDSRKEILQKNYSIDRSNSTVEMOG
AIASEDIAIQYSAPRVDNVSQTWRSQSOKDLLFGGSFGELEPPLPOEDEVVETTARQSR
VYRSSSQVRAPSEESIQKTEALRRSESLESNARKTFVDRRRENYSLSRKASVERETIM
EARVAKADQSIPVETLOKSKKQESIFSSVVESKDLNVCGSWTTAKPPIGAKVSLQTKK
VEKEVTSATMTVASASVECEVGLESKREQSRDATGSMVBAKSIEEVEREEGVEVTSTE
KTLEKRDQIESWIKSIPORLEVEESAEFGNDEVIIGGVMGSLBAPLEQEEETEKLLTM
KRSASRASKASTKAATKESIEEADEFSKIEADGEILTVQRELVKATGILNAAASREINAS
SKMEIKSVPSEDVIELSLTEESRROSNSGOFKETKEEEIVGLMVNGTKGENASKFLPHK
PPIDTASMKAKAAKONSIEMTGSLQKSPSAEAMGIVSQKVTEGANSKFGIAQGAVETT
LTASAQSGVTCRDISVSNIGVASSTORMSTGIGFGRASNLTARPPESAETEFTGK
ISNLSGTSLNKMAKASDVGTTVESKIQAFGDNYGDVSLAGKVASSISITRKANGSRDSA
ISVDFRQDRETVSAEKSDLNFKSTNSETQKLKLFESKEEESGIFRSSHEYEETQKTL
RHRSASRESASRTVTAPTNQEYQMTEDKVEDSVAEGSLSGIFRESSGEEVMOHAER
RHRSASRESASRTVTAPTNQEYQMTEDKVEDSVAEGSLSGIFRESSGEEVMOHAER
TQLSKPAEMLNTELLIYDKNYEQPYTWRVLECEECVENLHPIYRRPDDIFDLDEIWHI
ARNGGKFERRCKASGDEKEIFECEIKSKGIKDDIIDKEFIYGNGGEFTSSTTIQTSSV
SASVSQDMSRLGEKEAIKVLQNSKGINVEKMIEAFEYRETISEGFRKRUDEFDKA
LTVKDRRAGGSYELSTNASEQSSSSVSNELICPRPSQLSIEKTFITAQTIIPAILSCK
                                                                                                                                                                                                                               SCTAAEHIEATRNPEFNRPAEFSDIQKTVVDYNKIEGASLNTFEALNEKMALSTMLSR
QDDYSRVEHIVKDKNRGANLKFRFIESSEEKQTTFSAFEIDTEKEEIERTIDLVRQGG
QFKLSTDAAEENEITLHRDISKPIITHYDTLHLITLSNSAPHQILSTSGASNELHTIS
                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="PID:9726363"
/translation="mrtkessedivgvgiavnvpeenlisaikldekasggcyelttk
/translation="mrtkessedivgvgiavnvpeenlisaikldekasggcyelttk
AAGDEYKMISSILSKTQAVEKVKGKMIQKVVAKDEIRVLETTTESVNANFNYEIPEEN
FKIGIAKTCANNAAPFTMRLHBCLDFYVKMFNMNKKDDFESLIKTIIISNGIESKTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LIGGNLPNEICDISWKIPRLGGKVKLETEEFFEPDECLFLWSNOLQADRF"

join (21201. 25567,25621. 25699,25774. 25874,25950. 26055,

26445. 26576,26630. 26780,26826. 26900,26948. 27083,

27129. 27228,27467. 27586)

/gene="B0228.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SVSKVLTEKRVLRETWRVIESGDVRFNAVINLHRYSLSKPTLAQETVLREVVRIAAQP
LFISAGDIESDVVWSTHQLEKTFVREEIDRTIIGARKGENIKKKFEEAGDEKVKLKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IKTIQLRMEVLKRYSMNQSTAEELLQEAFQNSEQQMETFQRIVQNVHWEETKLTEEII
RNLRINMTAIPRFESTVGSLKAPDDQHESADSYISSTRRAEAVINLMAAADNAISTSS
TLSMMESDERLLHKTILKTMAVCNLTTPASRSETETMTQGFYQKVEQCQTEQELAERP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QHEESERSAATVRDEINILRHYLQTFAIQKASSEVSRVIEIIKTSQSFHLVHTTMLEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QSEASLSERSSVEMENTFKIQQIIFDTVVRKFGSDEERASIINLIGLLTSVNLKAAIQ
VASFERLPDSLDSTASITPVFKIQEHVRQPTEQVVQGFWSKERHPNETVEVVNRKIEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /noie="coded for by C. elegans cDNA yk19c1.5; coded for by C. elegans cDNA yk45a10.5; coded for by C. elegans cDNA yk45a10.5; coded for by C. elegans cDNA yk21e5.3; coded for by C. elegans cDNA yk21e5.3; coded for by C. elegans cDNA yk35c1.3; coded for by C. elegans cDNA yk45a10.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LKSILNCYAVAECHKSLERSLEKPSQQDETCATRGVTEVVQNAFAVTEQSYSKILKVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VSDETLNTLFSQLEQSDWSQIKLSSKQKSILSANIKSLATSNLDTLIGQLMPREADSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 asstiseklsmlqsefyvsaakqvstsltldyrrkifnqnseiifgdltrdyvkaafs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /map="III"
```

```
33432 catcacttggttttccatatggtgtatctacggcaactgtgactggatccagtaaaatat 33491
                                                                                                                                 annotations omitted.
                                        Score 31; DB 25;
Pred. No. 1.52e-06;
0; Mismatches 36
                                             36;
                                                                                      Length 38946;
                                             Indels
                                             0
                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SgS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         prim_transcript
                                                                                                          prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                         prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g46382
cytochrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (05-NOV-1990) to the EMBL/GenBank/DDBJ databases. Majewski, RUHR UNIVERSITAET BOCHUM, LEHRSTUHL F BICCHEMIE DI PFLANZEN, RUHR UNIVERSITAET, POSTFACH 102148, 4630 BOCHUM 1 2 (bases 1 to 5550)
Majewski,C. and Trebst,A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cytochrome b; cytochrome bc-1 complex; cyt petB gene; petC gene; Rieske Fe-S protein. Rhodospirillum rubrum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RRCYTBC1 5550 bp DNA BCT 15-FEB-1.
R. rubrum cytochrome bc1-complex genes (petA, petB, petC).
X55387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Majewski, C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eubacteria; Proteobacteria; alpha subdivision; 1 (bases 1 to 5500)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pet genes of Rhodospirillum rubrum: cloning and genes for the cytochrome bcl-complex . Gen. Genet. 224 (3), 373-382 (1990)
                                                           /gene="petB"
1826..3043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RCQQDQAGFVGEPRDEIRPGRMTHKSGAFEIVHSGAA
                                                                                                             <1826..>3043
                                                                                                                                                                                                                                                                                                                                                                                                                                           <1261..>1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="ORF1"
1250..1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
/trans1_table=11
/db_xref="pid:946383"
/trans1_tton="MLDAPACRWPDPDAGEGALRRLLDGEGKDLVIDRALLRWAAERG
/trans1atton="MLDAPACRWPDPDAGEGALRRLLDGEGKDLVIDRALLRWAAERG
KGPYPRAERTARWRALIETALGWTAPTFPLGGRDALACGLKGPAVGEAWRPCADAGLR
AAARPGGTRCWPGSPLGGTGPPTNRPPRSRAWNRYRSDRPSPGGVLRPACGMAQGLAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rs. rubrum DNA in EMBL3/clone="EMBL-pet 11.1,"
                                                                                                                                                      GPAPLNLPVPPYAFTDDTTVLIG
                                                                                                                                                                            QTDEARVQQAQWLVMVGVCTHLGC1PLGQKAGDPKGDFDGWFCPCHGSHYDSAGR1RK
                                                                                                                                                                                            /translation="MAEAEHTASTPGGESSRRDFLIYGTTAVGAVGVALAVWPFIDFM
NPAADTLALASTEVDVSALAEGQAITVTWRGKPVFVRHRTQKEIVVARAVDPASLRDP
                                                                                                                                                                                                                                                                                                                                                                                                <1261..>1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain-"FR1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Rhodospirillum rubrum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                        /gene="petB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'gene="ORF1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'gene="ORF1"
                                                                                                                                                                                                                                        /product="Rieske FeS protein"
/db_xref="PID:g46384"
                                                                                                                                                                                                                                                                                                       codon_start=1
                                                                                                                                                                                                                                                                                                                                                  gene="petA"
|261..1812
                                                                                                                                                                                                                                                                                                                                                                                                              'gene-"petA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    iQGGGDGDVERAHAGNHRNPDAQVGALVDLGGNARALSAQQQHVVGLKVSFGMKRARL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'clone_lib="Partially digested Sau3A fragments
                                                                                                                                                                                                                                                                                     transl_table=11
```

EMBL-pet 4.1"

of,

```
BASE COUNT
ORIGIN
                                                                                               Query Match
Best Local S
Matches 8
                           mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RBS 4053..4056 prim_transcript <4069..>4785 /gene="ORF2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                               3.28;
Similarity 59.2%;
87; Conservative
                                                                                                                                                                                                          926 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /4069...4785
/gene="ORF2"
4983..4986
c4997...>5550
/gene="ORF3"
c4997...>5550
/gene="ORF3"
4997...>5550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
//transl_table=11
//transl_table=11
//db_xref="PID:946387"
//db_xref="PID:946387"
//translation="MSEAYRQPVLGVIGGSGVYDIDGLEGARWQTVESPFGDVSDQIL
RGTLDGLEWAFLPRHGGIVLAPSDVNYRANIDALKRAGVTEILSVSAVGSLAEDLPP
GTFVLADQFIDRTFAREKSFFRQGSGRPCQHGPSGQRLAGRSRRRGSGRSGHSPSPGR
HLSVHGGAAVLDFGRKQSLSAMGLPRHRHDQHARGQAGPRSRDRLLHRGHGHRFRLLA
PKSRPRQRRGGGSRAAAKRR"
/4069...>4785
                                                                                                                                                                                    /transl_table=11
/transl_table=11
/db_xref="piD:g46388"
/db_xref="piD:g46388"
/db_xref="piD:g46388"
/translation="MNVKGTPTRTIWPAREGGAVWIIDQTRLPHEFVTQRLNDLGAVA
/translation="MNVKGTPTRTIWPAREGEGTTRACQTLLATRPTAVNLRWAIEA
HAIRAMLVRGAPLIGATAYCVALGMAEDPSDEGLTRACQTLLATRPTAVNLRWAIEA
MAESLAAVPPDQRAQAAWAKAGAICDEDVALNEAIGDHGLGIIKDLARTKGVEKGGEG
PINILTHCNAGWLATVDWARPWRRL"

1816 c 1767 g 1041 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPVSISSPVTTQA"
<1826..>3043
/gene="petB"
3056..3059
3070..3888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /Codon_start=1
//transl_table=11
/product="cytochrome c1"
/product="cytochrome c1"
/product="procyd6386"
/db_xref="PID:946386"
/db_xref="PID:946386"
/translation="mTTIVKRALVAAGMVLAIGGAAQANEGGVSLHKQDWSWKGIFGR
YDQPOLQRGFQVFHEVCSTCHGKKRVAYKNLSALGESEDGIKELAAKKEFPAQPDDNG
DMFTRFQTPADHIPSPFANDKAAAAANGGAAPPDLSLLAKARGGFNYIYSLLEGYAS
DMFTRFQTPADHIPSPFANDKAAAAANGGAAPPDLSLLAKARGGFNYIYSLDGTAAT
KDQMAQDVVAYLWWAAEPELDARKSLGLKVLLFLGVLTAMLLALKLAIWRDVKH"
43070...3888
/gene="pett"
3070...3142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="cytochrome b"
/db_xref="pi1:946385"
/db_xref="pi1:946385"
/translation="myrpprwnnkalkwfderlpvltvahkelvvypaprnlnyfwnf
Stlagiamiimlatgiflamsyrahydhafdsyreinkdvnygwlmryhlangasmff
GSLAGiamiimlatgiflamsyrahydhafdsyreinkdrylpwgomsfwgatvit
nlyvyhlfrglyygsyrppreylwwigclvilllamatafmgyvlpwgomsfwgatvit
nlfsaipvygddivtlumgggsydnprinnfffshyvfelhwalhykks
NNPLGidakgfpfdifpfhyytykdarglgiflavfcgfyffapurforddylfpan
MYTPTHIVPEWYFLADCLLLGYLGAMPAEEFYVTITQLATIYYFLHFUVITDLYGWFEKPKP
VFKGFFWFLADCLLLGYLGAMPAEEFYVTITQLATIYYFLHFLVITDLYGWFEKPKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="petC"
/product="cytochrome c1"
                                                                                       Score 27; D
Pred. No. 1.
0; Mismatc
                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C1.
                                                                             DB 22; L.
1.61e-03;
Les 60;
                                                                                                                                    Length 5550;
                                                                                          Indels
                                                                                          0
                                                                                          Gaps
                                                                                          0
                                                                                  RESULT 6
LOCUS
DEFINITION
                         ACCESSION
NID
KEYWORDS
```

ş

Human nuclear factor kappa-B DNA binding subunit (NF-kappa-B) mRNA, complete cds.

nuclear factor kappa-B DNA binding subunit

```
Сþ
                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 5
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                         Query Match 2.8%;
Best Local Similarity 78.6%;
Matches 33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
MEDLINE
                                            1287 ccaatttttcggatagtttcggcggtggtagtggtgccggag 1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sdo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4327 atcttgtcggtctccgccgttctctggccgaggacctgccgcggggcaccttcgtc 4386
446 ATTATTGATCAGTTCATTGACAGGACC 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 386 GTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGAGGAGATTCAGCCCGGCGATATTGTC 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            atcgccgatcagttcatcgaccgcacc 4413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo Sapiens
Eukaryota; Animalia; Chordata; Vertebrata; Mammalia; Theria;
Eutheria; Primates; Haplorhini; Catarrhini; Hominidae.

1 (bases 1 to 3205)
Rieran, M., Blank, V., Logeat, F., Vandekerckhove, J.S., Lottspeich, F.,
Kieran, M., Blank, V., Logeat, F., Vandekerckhove, J.S., Lottspeich, F.,
Le Bail, O., Urban, M.B., Kourilsky, P., Baeuerle, P.A. and Israel, A.
The DNA binding subunit of NF-kappa-B is identical to factor KBF1
and homologous to the rel oncogene product

Cell, 62, 1007-1018 (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            factor KBF1.
Human, cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HUMNFKB34 3205 bp mRNA
Human factor KBF1 mRNA, complete cds.
M55643 M37492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g189179
                                                                                                                                                                                                                                                                                                                                   874
                                                                                                                                                                                                                                                                                                   /COGOL_SCATUE_1
/COGOL_SCATUE_1
/COGOL_SCATUE_1
/GD_XIREf_PID:9189180"
//ETAINSTANDARY
//ETAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /sequenced_mol="cDNA to mRNA" 182..3091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/cell_line="HeLa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="NF-kappa-B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                         Score 24; DB 60;
Pred. No. 2.03e-01;
0; Mismatches 9
                                                                                                                                         9
                                                                                                                                                                                                              Length 3205;
                                                                                                                                         Indels
                                                                                                                                         0
                                                                                                                                         Gaps
                                                                                                                                         0
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                       KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Thes 33; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                         JOURNAL
                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                 JOURNAL
                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500 ccaatttttcggatagtttcggcggtggtagtggtgccggag 1541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          168 CCAATTATTCCAATCTTCACGGCGGTGGTGGTGGTGCCAGAG 127
                                                                                                                                                                                                                                                                                                                                                                                                                          H.sapiens NFKB1 gene
Direct Submission Submitted (12-JAN-1995) to the EMBL/GenBank/DDBJ databases. Elke Heron, Vitamins & Fine Chemicals, Biotechnology, F., HOFFMANN-LA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and Scheidereit,C.
Cloning of the DNA-binding subunit of human nuclear factor kappa-B:
The level of its mRNA is strongly regulated by phorbol ester or
                                                                                                                              The complete exon-intron structure of human NFKB1 encoding the p105 and p50 proteins of transcription factor NF-kappaB unpublished
                                                                                                                                                                                                                                    Eukaryota; Animalia; Metazoa; Chordata; Vertebrata; Theria; Eutheria; Primates; Haplorhini; Catarrhini; (bases 1 to 9152)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tumor necrosis factor alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Meyer,R., Hatada,E.N., Hohmann,H.-P., Haiker,M., Be
Roethhisberger,U., Lahm,H.-W., Schlaeger,E.J., van
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                      NFKB1 gene; p105; p50; transcription factor NF-kappaB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Animalia; Chordata; Vertebrata; Mammalia; Theria;
Eutheria; Primates; Haplorhini; Catarrhini; Hominidae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human premyeloid, cDNA to mRNA.
                                                                                     Heron, E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 3625)
                                                                                                        (bases 1 to 9152)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Natl. Acad. Sci. U.S.A. 88, 966-970 (1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KDDIQIRFYEEEENGGVWEGFGDFSPIDVHRQFAIVFKTPKYKDINITKPASVFYQLK
RKSDLETSEPKPFLYYPEIKDKEEVQRKRQKLMPRESDSFGGSGAGAGGGMFGSGG
GGGGTGSTG9CYSFEHYGFPTYGGITFHHGTTRSNAGMKHMFMDTESKUDPECCUSS)
DKNTVNLFGKVIETTEQDQEPSEATVGNGEVTLTYATGTKEESAGVQDNLFLEKAMQL
AKRHANALFDYANTGDVKMLLAVQRHLTAVQDENGDSVLHLA IILHSQLVRDLLEVT
SGLISDDIINKRNDLYGTPLHAVITTQGDVVEDLLAMGSSVLHLAAVILAVAGADVSVLHLAAVILAVAGADVSVLHAAK
EGHDKVLSILLKHKKAALLLDHNGDGLNAIHLAMSNSLPCLLLLVAAGADVNAQEQ
KSGRTALHLAVEHDNISLAGCILLEGDAHVDSTTYDGTTPLHATSGQVFDILKAALLKA
AGADFLVENFEPLYDLDDSWENAGEDGVVFGTTPLDATSGQVFDILNSKYYEPEFT
SDLLAGGDMKQLAEDVKLQLYKILEIDPDKNWATLAQKLGLGILNNAFRLSFAFS
LDDLLAGGDMKQLAEDVKLQLYKILEIDPDKNWATLAQKLGLGILNNAFRLSFAFS
TLMDNYEVSGGTVRELVEALRQMGYTEAIEVTQAASTKATSTAVAVENGAGAGSTRLAFFLSFAFT
TLMDNYEVSGGTVRELVEALRQMGYTEAIEVTQAASTKATSTAVAVENGAGAGSTRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="nuclear factor kappa-B DNA binding subunit"
/db_xref="pl0:g189178
/db_xref="pl0:g189178
/translation="MAEDDPYLGRPEQMFHLDPSLTHTIFNPEVFOPOMALPTDGPYL
/translation="MAEDDPYLGRPEQMFHLDPSLTHTIFNPEVFOPOMALPTDGPYL
OILEOPKORGFRFRYVCEGPSHGGLPGASSEKNKKSYPOVKICNYVGPAKVIVQLVTN
GKNIHLHAHSLVGKHCEGGICTTTAGFKDMVVGFANLGILHVTKMCFETLEARWTEA
CIRGYNPGLYWIPDLAYLQAEGGGROLGDREKELIRQAALQOTKEMDLSVVRLMETEA
CIRGYNPGLYWIPDLAYLQAEGGROLGDREKELIRQAALQOTKEMDLSVVRLMETE
CIPDSTGSFTRRLEPVYSDAIYDSKAPNASNLKIVRMDRTAGCVTGGEEIYLLCDKVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDELRDSDSVCDTGVETSFRKLSFTESLTSGASLLTLNKMPHDYGQEGPLEGKI"
937 c 956 g 799 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /tissue_type="premyeloid"
/tissue_lib="lambda ZAP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /sequenced_mol="cDNA to mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/cell_line="HL60"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.8%;
78.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA PRI 18-JUL-1995
: p50/p105 subunits NF-kappaB (exons 11,12).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24; DB 60;
No. 2.03e-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 3625;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bartsch, C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Loon, A.P.G.M.
                                                                                                                                                                                                                                                                     Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                              Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8937 ccaatttttcggatagtttcggcggtggtagtggtgccggag 8978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  168 CCAATTATTCCAATCTTCACGGCGGTGGTGGTGGTGCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           α
      Wilson, R., Almscough, R., Anderson, K., Baynes, C., Berks, M., Bonfield, J., Burton, J., Connell, M., Copsey, T., Cooper, J., Coulson, A., Craxton, M., Dear, S., Du, Z., Durbin, R., Favello, A., Cruston, L., Gardner, A., Green, P., Hawkins, T., Hillier, L., Jier, M., Johnston, L., Jones, M., Kershaw, J., Kirsten, J., Laister, N., Latreille, P., Lightning, J., Lightning, J., Kirsten, J., Komurray, A., Morttimore, B., O'Callaghan, M., Parsons, J., Percy, C., Rifken, L., Roopra, A., Sannders, D., Shownkeen, R., Smaldon, N., Smith, A., Sonnhammer, E., Staden, R., Sulston, J., Thlerry, Meg., J., Thomas, K., Vaudin, M., Thomas, S., Sulston, J., Therry, Meg., J., Thomas, K., Vaudin, M., Vandham, M., Wandham, M., Wand
                                                                                                                                                                                                                                                                                   Eukaryotae; mitochondrial eukaryotes; Metazoa/Eumycota group; Metazoa; Eumetazoa; Bilateria; Pseudocoelomata; Nematoda; Secernentea; Rhabditia; Rhabditida; Rhabditida; Rhabditida; Rhabditidae; Caenorhabditis.

1 (bases 1 to 29095)
                                                                                                                                                                                                                                                                                                                                                                                                                                           Caenorhabditis elegans strain-Bristol N2. Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g861394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Caenorhabditis elegans
U29097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ROCHE, BASEL, 4002, SWITZERLAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CELF18C5
Vaughan, K., Waterston, R., Watson, A., Weinstock, L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.8%;
Similarity 78.6%;
33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="pid:g902633"
/translation="LPLSSKLQSIKILILQNQPLCLSSFGGNLTWKLVNQNLSSTILK
SKIKKKCRGNVRSSCDIFRIVSAVVVVPELEAEACLVVAVEEGALEVQVQ"
300..8897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360..642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="p50/p105 subunit(s) of transcription NF-kappaB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /cell_line="Eppstein-Bar transformed B called DANI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /rpt_family="Alu"
8898..9041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      kbp long"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="L10, L11, L12, and
/cell_type="B-cell"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /number-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 kbp long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="NFKB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /number=11
)oin(<161..299,8898..>9041)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /sex="Male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note="this"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              number-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'gene="NFKB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'gene="NFKB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'gene="NFKB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'codon_start=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note-"pid:e122791"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          number-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'gene="NFKB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29095 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 24; DB 54; Le
Pred. No. 2.03e-01;
0; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                is the 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cosmid F18C5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end of intron 12 that is about 1.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      L13"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 9152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ANI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     that is about 1.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cell line,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                          Jier, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
JOURNAL REFERENCE AUTHORS TITLE JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5' cosmid is C56E6, 200bp overlap;3' cosmid is C56C10, 200 overlap. Actual start is at bp 1 of this sequence; actual bp 2639 of CELC56C10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (13-JUN-1995) Resubmitted by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      preparation)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Coding sequences below are predicted from computer analysis, using the program Genefinder (P. Green and L. Hillier, ms in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 (bases 1 to 29095) Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequence of C. elegans cosmid r18C5
Unpublished (1995)
3 (bases 1 to 29095)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wilkinson-Sproat, J. and Wohldman, P.
2.2 Mb of contiguous nucleotide sequence from chromosome elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NOTES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature 368 (6466), 32-38 (1994)
94150718
2 (bases 1 to 29095)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NEIGHBORING COSMID INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 29095)
    /GD_X=G=10-1
/GD_X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mote-"coded for by C. elegans cDNA yk29d2.3; coded for by C. elegans cDNA yk2al2.3; coded for by C. elegans cDNA yk7b7.3; coded for by C. elegans cDNA yk7b7.5; coded for by C. elegans cDNA yk7b7.5; coded for by C. elegans cDNA yk2al2.5; coded for by C. elegans cDNA yk2al2.5; coded for by C. elegans cDNA yk2al2.5; similar to S. cerevisiae hypothetical 287.5 kD protein in pDR region (SP:YBA4_YEAST)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Caenorhabditis elegans"
/strain="Bristol N2"
join(59..115,607..719,867..1020,1064..1214,2717..3300,
3347..349,3545..3618,3691..4156,4204..4349,5021..5177,
5227..6489,6540..6722,6775..6914,6962..7370,7414..7528,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="F18C5.3"
/map="II"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sanger Centre, Hinxton Hall
Cambridge CB10 IRO, England
e-mail: rw@nematode.wustl.edu and jes@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genome Sequencing Center
Department of Genetics, Washing
St. Louis, MO 63110, USA, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Robert Waterston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Washington University,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     III
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0£
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                라
CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
```

....e="1ys; codon recognized: AAA; aa: Lys" complement(join(18753..18876,18926..19369,19411..19477, 19870..19870) /gene="f1865.5"

/codon_start-1

/evidence=not_experimental
/db_xref="PID:g861399"
/db_xref="PID:g861399"
/t=anslation="MKLILAWCVIGFVACYEVVPRASALRERGDVRRSPLPSLSAYA
PFARSLRPASTGIRRAPAVTLPAQKANRSVKRAPAKPLPMTLPLLPPLLPPLPPGFIPV
PVPVLSAEGLFTLDTLAPHTFPFFTBIPGMFMPALTMPBSFQRLLGITTTMKPAEK
AMETYQTEESDNDTTSEARAHSAPTYSKDLNTIRSRLSKFVRGSEKKVTKAEDNADWI
VPFH"

join(22223..22486,22538..22683,22771..22846,22947..23316,

```
VGVAGRGETEVICKWILKAEDENAKAVGIGTAVQLSYVEKEGMYTRIDEIVKQVKEVL
FIDAVTERNSETITIVILNEFTRIISNVAASALTKEDAVDFIRSMEELCKEESGAIN
LASSTIIGGLISHLAVBLI FRELSKUPCGVEWASHLIFEKMOTAIGEDASKNIYCLAKY
IDIEDYKTIVGYIAAACRYEIKHIVKQSLKRINCFKLVAALFYTGDDERNIIVLOKEM
SILVRELKTSSDEELSKRIKNKKKTEVRRAKTIGEDASKNIYCLOKEM
JOIN 6186. 3908. 357. 8413. 861. 9238. 81924. 9354.

SLLVRELKTSSDEELSKRIKNKKKTEVRRAKTIGEDASKRIVATGGVAAEKTIDRKRRII
JOHN 6186. 3908. 357. 8413. 861. 9238. 9284. 9354.

10897. 11222. 11270. 11369. 11499. 11543. 11595. 11727.
11172. 11864. 11912. 112071. 12191. 12369. 10631. 10847.
10897. 11222. 11270. 11369. 11499. 11543. 11595. 11727.
11172. 11864. 11912. 112071. 12121. 12356.

Geode Goda For by C. elegans CDNA yk7h8. 5; slmilat to
C. elegans CDNA yk4123. 5; coded for by C. elegans CDNA
yk7h8. 3; coded for by C. elegans CDNA yk7h8. 5;

JOHN 616. 9861. 9861. 987.

JOHN 718. 11864. 11912. 112071. 12121. 12356.

JOHN 718. 11864. 11912. 112071. 12121. 12356.

JOHN 718. 11864. 11912. 112071. 12121. 12356.

JOHN 718. 11864. 11912. 11912. 112071. 12121. 12356.

JOHN 718. 11864. 11912. 112071. 12121. 12356.

JOHN 718. 11864. 11864. 11864. 11864. 11864. 11865.

JOHN 718. 11864. 11864. 11864. 11864. 11864. 11864.

JOHN 718. 11864. 11864. 11864. 11864. 11864. 11864.

JOHN 718. 11864. 11864. 11864. 11864. 11864. 11864.

JOHN 718. 11864. 11864. 11864. 11864. 11864. 11864. 11864.

JOHN 718. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11864. 11865. 11866. 11864. 11864. 11864. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 11866. 118
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Note: remainder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                        JOURNAL
                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                 MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ø
                                                                                                                                         Bonfield, J., Burton, J., Connell, M., Copsey, T., Cooper, J., Coulson, A., Craxton, M., Dear, S., Du, Z., Durbin, R., Favello, A., Fulton, L., Graen, F., Hawkins, T., Hiller, L., Jier, M., Johnston, L., Jones, M., Kershaw, J., Kirsten, J., Laister, N., Latreille, P., Lightning, J., Lloyd, C., McMurray, A., Mortimore, B., O'Callaghan, M., Parsons, J., Percy, C., Rifken, L., Roopra, A., Saunders, D., Shownkeen, R., Smaldon, N., Smith, A., Sonnhammer, E., Staden, R., Sulston, J., Thierry-Mieg, J., Thomas, K., Vaudin, M., Vaughan, K., Waterston, R., Watson, A., Weinstock, L., Wilkinson-Sproat, J. and Wohldman, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphatidylserine decarboxylase.
Caenorhabditis elegans strain-Bristol N2.
Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Caenorhabditis
U00031
                                                                                                                                                                                                                                                                                                                                                                                                                     Eucaryotae: Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditina; Rhabditoidea; Rhabditidae; Caenorhabditis.

1 (bases 1 to 42528)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            acid phosphatase; transmembrane;
                                                                                                  elegans
                                                                                                                                                                                                                                                                                                                                                                                              Wilson, R., Ainscough, R., Anderson, K., Baynes, C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CELB0361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             h 2.8%;
Similarity 92.9%;
26; Conservative
                                                                                                                          .2 Mb of contiguous nucleotide sequence from chromosome III of
                       (bases 1 to 42528)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     얁
                                                                        368 (6466),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     annotations
                                                                                                  see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence-not_experimental
/db_xref="pid:g861401"
/db_xref="pid:g861401"
/t-anslat.ton="MSECARSDWHNVLTSDSMKENHCFIISIIIISFETTIKSVRVL
/t-anslat.ton="MSECARSDWHNVLTSDIKTERAFYHAIVYASDCAILEQSSQCFF
LKQNLLPTCTRNLLFSAIINGIIHQCVTAVIRLRAFYHAIVYASDCAILEQSSQCFF
DGNLYYYTNLFSSFCCFSLFLDRLFSFKPRSSYHHHOTLASTVLILSGOIVLFIGPLYW
VFYDAFYTSYYLMCTYPPMSVMKLHEVNNICHGVLTVLFFAIFLY INKIREKRMV
HNVYNINSRYKSYENYLATKSVCIVIESQILCVGPTSSITSVETRFRDSIPLEWFHLI
ISYLTGTTSNFLLFAIILYQDKQIAKKRRIMIQRLQNKNETSEDHFDTLKSLWGKKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KSIDKMTNHTGTVDSHISSLKTAWET"

complement()0in(23918..24100,24145..24215,24262..24386,

26110..26528,26759..26986))

/gene="F18C5.6"

/map="II"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            complement(24698..25519)
/gene="F18C5.7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CKIEFHSPECTYDQTIYAFTSVMSTGLLSALTFDRFFALYASTVYVRNSKDSAYMLIT
VSIIVTVIVHIRTYGGVSRAGYVPSCTYPPQLSLNTYQVVNNAIFWIIMANCVLTIAV
LLLNIYKDKRLIIFYFEKLFENNQFRIKKSVFDTKTRYNSFENVLTTKAICSVTSTQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="pid:g861395"
/translation="mamytnotaeeletwrctsdgifksonsiwmkinfvfvfilifl
Teylsfkaarviknhnvyskgsqiilmitlinaninolifleiixirhi/hifinsedp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23376..23446,23488..23643)
/gene="F18C5.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VFLSFSTAALATIRTLEAGMSEEVFHINIQYINGGVYGNLSIPVLIYLKTNQCILQRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note="similar to F44F4.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             42528
                                                                                                  comments)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     528 bp DNA
elegans cosmid B0361.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     omitted
                                                                        32-38 (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 24; DB 26
Pred. No. 2.03e-
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 26; LC.
2.03e-01;
2.03e-2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       transposon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 29095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contained within
                                                                                                                                                                                                                                                                                                                                                                                              Berks, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rhabditida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                        Jier, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                          ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
```

ş

RESULT

용

Best

SOURCE

ä

```
JOURNAL COMMENT
                                                                                                                                                                                                                                       JOURNAL REFERENCE
                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                 Submitted
                                                                                                                                                                            Direct Submission Submitted (26-FEB-1994) Robert Waterston
                                                                                                                                                                                                                                    The sequence of C. elegans cosmid B0361 Unpublished (1994)
3 (bases I to 42528)
NOTES:
                                                                                                                                                                                                                        Waterston,R.
                                                                                                                                                                 λç
                                               Department of Genetics, Washington
St. Louis, MO 53110, USA, and
Sanger Centre, Hinxton Hall
Cambridge CB10 IRQ, England
e-mail: rw@nematode.wustl.edu and
                                                                                                        Genome Sequencing Center Department of Genetics, 1 St. Louis, MO 63110, US
                                                                                                                       Washington University,
                                                     jes@sanger.ac.uk
```

source

preparation) sequences below ocation/Qualifiers Genefinder are (P. Green and from computer analysis, using L. Hillier, ms in

'organism="Caenorhabditis elegans"

CDS Sg SRNSFPSTFRKHPTRASSDKYLKPSIIVSNYFSLHKIISSIFAVNSFFFTEKRKAHFH STRESSSFHGGFVYVDLKSSIYSCYFSIIYYFYYFFSIFF Complement(join(4177..4486,4678..5207,5737..5861, 6429..6465)) SUPPLSSDGSGDSLLSPLTASSNDRRRSRSLCSAQMKDDAQAVAAQQNKDDKTGGSGG RRASSGLVPSLNRLRLQQCFKAAKPSLGDAIMKRAAASRABMFMLSKUNEKQIECLG KQMEELITDAVENADKSEKYSFRGIESLLIIFWFSHTPDNSVBHMHLYVLMASDLISS PLLLMQQLQNVSNLMEFIKDVKHCLHGANYSLLCSLVYEMVIIKEYGIREELRVRRIL join(670..s 3657..3942) /db_xref="PID:9458952" /translation="MLLSLCFFYILFYNICGASHSSHHHHHHSHQHLYMSTLNFSFSV /strain="Bristol N2" |oin(670..924,2021..2142,2405..2564,2997..3037,3123..3383, 'gene="B0361.5" 'note="coded for 'gene="B0361.4" γd 9 elegans cDNA CEESE79FC*

phosphatidylserine 'db_xref="PID:g458953" codon_start=1 'note-"coded for ş y C. elegans cDNA decarboxylase" cm02b7; similar ដ

DPDFKNYPSFAAFFNRKLKESTRPISASPLVSPADGTVLHFGKVEDNKIETVKGHDYD
VDKFLGDVDLPQKDELDLYQVVIYLAFGDYHAFHSPARWYANQCHIVPGLLLSYRPTL
LSHYPHLFCLNERVYLNGSWRHGFESNSAVAATNVGDIVUDAEPSLATNIVTRRKTQKI
MNTETEIHAPYVSGERVGEFRLGSTIVLVFQAPPTIKFAIKAGDPLRYGQSLVADGV*
COMplement(join(11179.111392,11488.11568,11624.11738,
11844.11220,13301.12463,12515.12604,12653.12749))
/gene-"B0361.6")SKHYYSNWKIRVYLSLPFNTASRVIGGLANQEIPVWLREHLLGGFARMYDCRMDDCV translation="MALNPFLIFVAFWSWVKWLSVSTLIIGGASYVGYLFTPDWREIV

region" 'note="coded for by marismortui or by C. elegans cDNA hypothetical 23.1 kd CEMSB50F; protein in similar HMAL3 5' ç

CDS

/Codon_start=1
/db_xref="pID;9458954"
/db_xref="pID;9458954"
/translation="MHPDQKKTFKEKNDIRKKLFNSTKEERLDWRKMKDEKKRKNEEK
/translation="MHPDQKKTFKEKNDIRKKLFNSTKEERLDWRKMKDEKKRKNEEK
/IKEBAEBAKKAKIEKVDHTPPFTISIAVPGQFLNNAQSAELRTYMAGQIARAATLYRV
DEIIIYDESCRWIDEAVNAYYNGTWQGNLIFAETNYEGCFYLAKILEYLECPQYLRKD
LFPIQKPLNAGLLWPLDAQHHLKYDEKTLAFREGVVVLKKRSKDGRGPICNIGLEKEF
EIDSDAVQLPPYTRVTVEIKNLTEGCKLYRGSITSGATVTRETGLYWGYVSVELMTGLQ
EIDSDAVQLPPYTRVTVEIKNLTEGCKLYRGSITSGATVTRETGLYWGYVSVELMTGLQ KVLQAKKFDIVAGVSPRGKLASQMDVCILNKPKILLVFGGVAGVDAAVESEELAEWRR AEDAEDVLIRTISLSNGSRSBRVEENVLSVLAQVQCHLETLAAL" Join (13082..13156,13202..13387,13433..13536,14311..14581,14581..14581,14581..14581,14581..14581,14581..14581,14581..1458

```
//gene="00361.3"
//gene="00361.3"
//gene="00361.3"
//gene="00161.3"
//gene
```

CDS

CDS

```
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Note: remainder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28059 agaaggaaaaactgaaaattatgtgtata 28087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199 AGAAGGAAGAACTGAAAAATATGTGGATA 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                          Fleischmann, R.D. Adams, M.D., White, O., Clayton, R.A., Kirkness, E.F., Kerlavage, A.R., Bult, C.J., Toob, J.-F., Dougherty, B.A., Merrick, J.M., McKenney, K., Sutton, G., FitzHugh, W., Fields, C.A., Gocayne, J.D., Scott, J.D., Shirley, R., Liu, L.-I., Glodek, A., Kelley, J.M., Weidman, J.F., Phillips, C.A., Spriggs, T., Hedblom, E., Cotton, M.D., Utterback, T.R., Hanna, M.C., Nguyen, D.T., Faudek, D.M., Brandon, R.C., Fine, L.D., Fritchman, J.L., Fuhrmann, J.L., Geoghagen, N.S.M., Gnehm, C.L., McDonald, L.A., Small, K.V., Fraser, C.M., Smith, H.O. and Venter, J.C., Whole-geomeer andom sequencing and assembly of Haemophilus Science 269 (5223), 496-512 (1995)
Jean-Francois Tomb, Brian A. Dougherty, and Hamilton O. Smith are with the Johns Hopkins University School of Medicine, Baltimore, MD, 21205. Joseph M. Merrick is with the State University of New York, Department of
                                                                                                                                                                                             The Institute for Genomic Research 932 Clopper Rd, Gaithersburg, MD, 208 (New address as of Sept 9, 1995: 9712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Haemophilus influenzae (strain Rd) DNA.
Haemophilus influenzae
Eubacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aroE gene.
Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HEAHIO655 819 bp DNA BCT 01-OCT-19 Haemophilus influenzae Rd shikimate 5-dehydrogenase (aroE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Haemophilus.

1 (bases 1 to 819)
                                                                                                                                                                                                                                                                                                                                                           Address all correspondence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                h 2.7%; Score 23; DB 25
Similarity 89.7%; Pred. No. 9.32e-
26; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                           Craig Venter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of annotations omitted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
/db_xref="PID:9458949"
/translation="MYTSSPSLHVVYEHKRIERSFDDCSRCIDSSRLKKHNIIAVGIN
/translation="MYTSSPSLHVVYEHKRIERSFDDCSRCIDSSRLKKHNIIAVGIN
TYLAVVEWDGLDDEHLIIVPTQHCSSTIQLDENVWDEMRLWRKGLVAVWKSQNRDCIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /evidence-not_experimental
/db_xref="piD:g418957"
/db_xref="piD:g418957"
/db_xref="piD:g418957"
/db_xref="piD:g418957"
/db_xref="piD:g418957"
/db_xref="piD:g418957"
/db_xref="piD:g418957"
/db_xref="pig418957"
/db_xref="
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20878
                                                                                                                                                                                             Medical Center Dr,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 42528;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                  Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                             EYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              570 tggattaagtggtggaacggcttcagttgatgctgaaattttaaaa 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGAATAATTGGTGGAACAGGCCTGGATGATCCAGAAATTTTAGAA 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Annotation: Owen White e-mail: owhite@tigr.org
Biological role information, putative identifications, sequence alignments, on-line name and sequence search capability are available at TIGR's World Wide Web site (URL: http://www.tigr.org/).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Microbiology, Buffalo, NY, 14214. Chris Fields' current address is The National Center for Genome Resources, Sante Fe, NM, 87505. Keith McKenney is with the National Institute for Standards and Technology, Gaithersburg, MD, 20878. All other authors are with The
                                                                                                                                                                                                                                                                                                                          D-type cyclin; G1 cyclin; catalytic subunit; protein kinase. Mus musculus (strain BALB/c, sub_species domesticus) (library: WEHI-3 cDNA) cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MUSGICYC 912 bp
                                                                                                                                                                                                                                                                                                                                                                                                     g193363
                                                                                                                                                                                                                                                                                                                                                                                                                           complete cds.
L01640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.6%;
Similarity 73.9%;
34; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Technology, Atlanta, GA, 30332. e-m. Submitted by: Robert D. Fleischmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Predicted open reading frames were determined using GeneMark software, kindly supplied by Mark Borodovsky, Georgia Institute of Technology, Atlanta, GA, 30332. e-mail: mark@amber.gatech.edu
                                                                                                                                                                                                             Matsushime, H. and Sherr, C.J.
                                                                                                                                                                                                                              Eutheria; Rodentia; Myomorpha;
1 (bases 1 to 912)
                                                                                                                                                                                                                                                                                                         Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     e-mail: rdfleisc@tigr.org
                                                                                                                                                          Identification and properties of an atypical catalytic subunit (p34psk-j3/CDK4) for mammalian D-type G1 cyclins
                                                                                                                                                                                                                                                                               Eukaryota; Animalia; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Institute for Genomic Research, 932 Clopper Rd, Gaithersburg, MD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    246
                                                                                                                                       (1992) In press
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /standard_name="HI0655"
/note="similar to SP:P15770 {Escherichia coli} percent
identity: 49.1; corresponds to position 698946 to 698125
of L42023; identified by sequence similarity; putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OQLLAFFEEGAKGCNITSPFKERAYQLADEYSQRAKLAEACNTLKKLDDGKLYADNTD
GIGLVTDLQRLWGLRPKOHYLILGAGGATKGVLLPLLQAQQNIVLANRRTSKTKELAE
RFQPYGNIQAVSMDSIPLQTYDLVINATSAGLSGGTASVDAEILKLGSAFYDMQYAKG
TDTPFIALCKSLGLTNVSDGFGMLVAQAAHSFHLMRGVMPDFVSVYEQLKKAML*
152 c 184 g 237 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="shikimate 5-dehydrogenase"
/db_xref="PID:g1005526"
/translation="MDLYAVWGNPIAQSKSPLIQNKLAAQTHQTMEYIAKLGDLDAFE
/sub_species="domesticus"
/cell_type="macrophage-like"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="aroE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /strain-"Rd"
                                             /strain-"BALB/c"
                                                                   /organism="Mus musculus"
                                                                                                               cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /sequenced_mol="DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Haemophilus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ខ្ព
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cyclin catalytic subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NO ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 19; 1
                                                                                                                                                                                                                                                           Muridae;
                                                                                                                                                                                                                                                                               Vertebrata; Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          influenzae'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12; Indels
                                                                                                                                                                                                                                                           Murinae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 819;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ROB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PSK-J3/CDK4) mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

ş 밁

NID

```
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
LOCUS
                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             156 cacagttcgtgaggtggc-cttgttaaggaggctgga 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   712 CACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGA 748
                                                                                                                                                                                                                                                                                                                                                                                    Tatusov, R.L., Mushegian, A.R., Bork, P., Brown, N.P., Hayes, W.S.,
Borodovsky, M., Rudd, K.E. and Koonin, E.V.
Metabolism and evolution of Haemophilus influenzae deduced from a
whole genome comparison with Escherichia coli
Curr. Biol. 6, 79-291 (1996)
DE 2 (bases 1 to 12500)
Fleischmann, R.D., Adams, M.D., White, O., Clayton, R.A.,
Kirkness, E.F., Kerlavage, A.R., Bult, C.J., Tomb, J.-F.,
Dougherty, B.A., Merrick, J.M., McKenney, K., Sutton, G., FitzHugh, W.,
Fields, C.A., Gocayne, J.D., Scott, J.D., Shirley, R., Liu, L.-I.,
Glodek, A., Kelley, J.M., Weidman, J.F., Phillips, C.A., Spriggs, T.,
Hedblom, E., Cotton, M.D., Utterback, T.R., Hanna, M.C., Nguyen, D.T.,
Saudek, D.M., Brandon, R.C., Fine, L.D., Fritchman, J.L.,
Fuhrmann, J.L., Geoghagen, N.S.M., Gnehm, C.L., McDonald, L.A.,
Small, K.V., Fraser, C.M., Smith, H.O. and Venter, J.C.
Whole-genome random sequencing and assembly of Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haemophius influenzae arcE,
yhlD, yrdC, yrdD genes from i
of the complete genome.
U32694 L42023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Haemophilus influenzae.
Haemophilus influenzae
Eubacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                   Submitted (27-JUL-1995) to GSDB Address all correspondence to:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Haemophilus influenzae.
                                                                                                                                                                                The Institute for Genomic Research 932 Clopper Rd, Gaithersburg, MD,
                                                                                                                                                                                                                              J. Craig Venter
                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                      White, O.
                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Haemoph1lus
Department
                     Joseph M. Merrick is with
                                                                the Johns Hopkins University School of Medicine,
                                                                                          Hamilton O.
                                                                                                           MD, 20850)
Jean-Francois Tomb, Brian A. Dougherty,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     h 2.6%;
Similarity 86.5%;
                                                                                                                                                        932 Clopper Rd, Gaithersburg, MD, 20878
(New address as of Sept 9, 1995: 9712 Medical Center Dr, Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 12500)
                                                                                                                                                                                                                                                                                                                                              ublished (1995) see COMMENT for author addresses (bases 1 to 12500)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /Product-"D-type G1 cyclin catalytic subunit"
//db_xref-"pri:g193364"
/db_xref-"pri:g193364"
/db_xref-"pri:g193364"
/translation-"MAATRYEPVAEIGVGAYGTVYKARDPHSGHFVALKSVRVPNGGA
AGGLPVSTVREVALLERLEAFEHPNVVRLMDVCATSRTDRDIKVTLVFEHIOQDLRT
YLDKAPPPGLPVETIKDLMRQFLSGLDFLHANCIVHRDLKPENILVTSNGTVKLADFG
LARIYSYQMALTFVVTLMYRAFEVLLQSTYARTPUDMRSVGCIFAEMFRKFLECGNS
EADQLGKIFDLIGLPPEDDWPREVSLDRGAFAPRGPRPVQSVVPEMEESGAQLLLEML
TFNPHKRISAFRALQHSYLHKEESDAE"
a 238 c 257 g 211 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /sequenced_mol="cDNA to mRNA"
/tissue_lib="WEHI-3 cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="PSK-J3/CDK4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      function="kinase"
                                                                                        Smith are with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 22; DB 66;
Pred. No. 4.06e+00;
0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequencing.
                     the State University of New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , asd, kdtA,
bases 87095
                                                                                                                                                                                                                                                                         : Vd
                                                                                                                                                                                                                                                                         Owen White
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BCT 03
, kdtB, mdaB,
5 to 99594 (se
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4.
                                                                                                                and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99594 (section 9 o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           912;
                                                                  Baltimore,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-MAY-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               얁
                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۳
```

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Annotation: Owen White
e-mail: Owen White
Biological role information, putative identifications, sequence
Biological role information, putative identifications, sequence
alignments, on-line name and sequence search capability are
available at TIGR's World Wide Web site (URL: http://www.tigr.org/)
***** Comment added by NCBI staff:
The H. influenzae sequence was re-analyzed with several different
methods for protein similarity detection; the resulting set of
predicted genes that have homologs in databases was used to
re-train the GenMark program in order to predict additional genes
among open reading frames without homologs. As a result, some
predicted small genes from ref. I (with subsequent modifications)
whose existence could not be corroborated were discarded, and 23
new genes were predicted. An attempt was made to tentatively
reconstruct all coding regions containing frameshifts or in-frame
stop codons, including those that have been annotated as
misc_features in ref. 1. The sequence was re-annotated as
misc_features in ref. 1. The sequence was re-annotated as
misc_features in ref. 1. The sequence was re-annotated as
misc_features in ref. 1. The sequence was re-annotated as
the genes for which apparent orthologs could be identified in E. coli
Address all correspondence concerning the H. influenzae sequence
re-analysis and re-annotation to:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The National Center for Genome Resources, Sante Fe, NM, 87505. Keith McKenney is with the National Institute for Standards an Technology, Gaithersburg, MD, 20878.

All other authors are with The Institute for Genomic Research, Clopper Rd, Gaithersburg, MD, 20878

Predicted open reading frames were determined using GeneMark software, kindly supplied by Mark Borodovsky, Georgia Institute of Technology, Atlanta, GA, 30332. e-mail: mark@amber.gatech.edu submitted by: Robert D. Fleischmann

e-mail: rdfleiscetigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P. Bork and N. P. Brown are with the European Molecular Biology Laboratory, Meyerhofstrasse 1, D-6900, Heidelberg, Germany.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           email tatusovencbi.nlm.nih.gov, koonin@ncbi.nlm.nih.gov R. L. Tatusov, A. R. Mushegian, K. E. Rudd, and E. V. Koonin are with the National Center for Biotechnology Information, National Library of Medicine, National Library of Medicine, National Institutes of Health, National Institutes of Health, Medicine, Medicine, National National Constitutes of Health, Medicine, Medici
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Roman L. Tatusov or
Eugene V. Koonin
National Center for Biotechnology Information,
National Library of Medicine, National Institutes of Health,
Bethesda, MD 20894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Microbiology, Buffalo, NY, 14214.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hayes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          f Biology,
/product="aspartate-semialdehyde dehydrogenase"
/db_xref="piD:g1220730"
/db_xref="piD:g1220730"
/db_xref="piD:g1220730"
/db_xref="piD:g1220730"
/db_xref="piD:g1220730"
/db_xref="piD:g1220730"
/translation="mknyGFIGWRGYWGSVLMDRWGQENDFRULVPFTTSQAGQKA
PVFGGKDAGDLKSAFDIEELKKLDIIVTCQGGDTYNEYYFKLKATGWGGYWDDASSAL
RWKDDAIIVLDEVNQHVISEGLKKGIKTFVGGNCTVSLMLMAIGGLFEKDLVEWISVA
TYQAASGAGKAKMRELLSQMGLLEQAVSSELKDPASSILDIERKVTAKMRADNFPTDN
FGAALGGSLIPWIDKLLPETGOTKEEWKGYAETNKILGLSDNPIPVDGLCVRIGALRC
HSQAFTIKLKKDLPLEEIEQIIASHNEWVKVIPNDKEITLRELTPAKVTGTLSVPVGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /standard_name="HIN0066"
/note="homolog of DHAS_ECOLI, BLAST score:
NCBI g1: 1220730"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement(54..1169)
/gene="asd"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1220729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Haemophilus
/strain="Rd"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Borodovsky are with the Georgia Institute of Technology,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       influenzae"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chris Fields'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genomic Research,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          704; HI0646;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Atlanta,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   current address
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GA
                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
```

```
/standard_name="HIN0071"
/note="homolog of KDTB_ECOLI,
/CBI g1: 1220735"
                                                                                                                                                                                                                                                                             /product="H. influenzae predicted coding region HIN0070" /db_xref="PID:91220734"  
/translation="MIKIFIFITALIVLSGCGSVVKLIDPTEKYTAYAGVAYDLEMAQ QWGLDILDLPLSFILDTYLLPYAWAQ"  
complement(5417..5887)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product-modulator of drug activity"
/db_xref-PID:91220732"
/db_xref-PID:91220732"
/translation-"MATPFFFIIICFRSKKMNILLLDGGKAFGHSHGELNHTLHKKAK
/translation-"MATPFFFIIICFRSKKMNILLLDGGKAFGHSHGELNHTLHKKAK
EVLTALGHNVKETVIDAGYDVEAEIEKFLMMDAVIMOMPSWWMHEPWTVKKYIDEVLT
MGHGKLYHSDGRHSVMPTEGVGTGGLLOGKKHKLSLTWNAPIEAFTREGDFFEGKGVD
VLYMHFHKLMEFIGGLTRLPTFLCNDVVKSPQVEQYLADYQAHLEKVFG"
complement(3190..5202)
                                                                                                                                                                                                                                                                                                                                                                                                           /standard_name="HIN0070"
/note="weak similarity to YEJM_ECOLI,
/note="weak similarity to YEJM_ECOLI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-"homolog of MDAB_ECOLI,
NCBI g1: 1220732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="Mg2+-transporting ATPase"
/db_xref="PID:g122073]"
/db_xref="PID:g122073]"
/translation="MeMSSLLITALENPDHLIIFSKMLLAMVLGSVIGLERELKRKPV
/translation="MeMSSLLITALENPDHLIIFSKMLLAMVLGSVIGIGFLGAGYILH
GVKTCAIIAVTTCVLTIVSIQAAEHYAQVSENIRTDPMRLAAQVISGIGFLGAGYILH
KNNDAISGLTTAAIIWASAGIGIAAGAGFVFDAVIATVMILVSIRLSPLYQRWYHRKS
QRREKKENILVANDAESIGKNTGLLVNNQYRIEHIQVKDQSSGEVRLQIRCFSIDSTML
KDAYALLKAEDGVISVEVDN"
                                                                                                                                                                                                                                                                                                                                                                             /transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complement(2322..2948)
/gene="mdaB"
                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="homolog of SSU20224_2,
NCBI g1: 1220731"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LRKLAMGPEYLAAFTVGDQLLWGAAEPVRRILKQLVA"
complement(1328..2044)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /standard_name="HIN0068"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="yhid"
/standard_name="HIN0067"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             name="HIN0069"
                                                                                                                                                                                                                      BLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLAST score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          score:
                                                                                                                                                                                                                                                                                                                                                                                                                               BLAST score:
                                                                                                                                                                                                                      441;
                                                                                                                                                                                                                      HI0651;
                                                                                                                                                                                                                                                                                                                                                                                                                                   60;
```

```
မှ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Note: remainder of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
Address all correspondence to: J. Craig Venter The Institute for Genomic Research 932 Clopper Rd, Gaithersburg, MD, 20878 (New address as of Sept 9, 1995: 9712 Medical Center Dr, Rockville, M (20850) Jean-Francois Tomb, Brian A. Dougherty, and Hamilton O. Smith are with the Johns Hopkins University School of Medicine, Baltimore, MD, 21205. Joseph M. Merrick is with the State University of New York, Department of Microbiology, Buffalo, NY, 14214. Chris Fields' current address is The National Center for Genome Resources, Sante Fe, NM, 87505. Keith McKenney is with the
                                                                                                                                                                                                        Submitted (27-JUL-1995) to the EMBL/GenBank/DDBJ databases to GSDB by: Owen White SWISS-PROT: P44503; THRC_HAEIN.
SWISS-PROT: P44504; KHSE_HAEIN.
SWISS-PROT: P44504; KHSE_HAEIN.
SWISS-PROT: P44505; AKH_HAEIN.
SWISS-PROT: P44507; YHAL_HAEIN.
SWISS-PROT: P44509; YAEG_HAEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kirkness E.F., Kerlavage A.R., Bult C.J., Tomb J.F.,
Dougherty B.A., Merrick J.M., McKenney K., Sutton G., FitzHugh W.
Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.I.,
Glodek A., Kelley J.M., Weldman J.F., Phillips C.A., Spriggs T.,
Glodek A., Kelley J.M., Weldman J.F., Phillips C.A., Spriggs T.,
Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T.,
Saudek D.M., Brandon R.C., Fine L.D., Fritchman J.L.,
Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A.,
Small K.V., Fraser C.M., Smith H.O., Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tatusov R.L., Mushegian A.R., Bork P., Brown N.P., H Borodovsky M., Rudd K.E., Koonin E.V.; Rotabolism and evolution of Haemophilus influenzae whole genome comparison with Escherichia coli"; Curr. Biol. 6:279-291(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-AUG-1995 (Rel. 44, Created)
05-MAY-1996 (Rel. 47, Last updated, Version 3)
Haemophilus influenzae aroE, asd, kdtA, kdtB, mdaB, rep, t
yhiD, yrdC, yrdD genes from bases 87095 to 99594 (section
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F., Kerlavage A.R., Bult C.J., Tomb J.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       complete genome; shotgun sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of the complete genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HI32694 standard; DNA; PRO; 12500
U32694; L42023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8749 ttttaaaatttcagcatcaactgaagccgttccaccacttaatcca 8794
                                                                                                                                                                                                                                                                                                                                                                                                White
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Prokaryota; Bacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Facultatively anaerobic rods;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202 TTCTAAAATTTCTGGATCATCCAGGCCTGTTCCACCAATTATTCCA 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Whole-genome random sequencing and assembly of Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.6%;
Similarity 73.9%;
34; Conservati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rd";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     annotations omitted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="homolog of KDTA_ECOLI, BLAST score: 914; HI0652;
NCBI g1: 1220736"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /transi_table=11
/product="3-deoxy-d-manno-octulosonic-acid transferase"
/db_xref="PID:91220736"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="kdtA"
/standard_name="HIN0072"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gracilicutes; Scotobacteria.
ic rods; Pasteurellaceae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 22; DB 82;
Pred. No. 4.05e+00;
0; Mismatches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brown N.P., Hayes W.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 12500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           deduced from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 of Je
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                  and re-annotation to: Roman L. Tatusov or Eugene V. Koonin National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, MD 20894 email tatusovencbi.nlm.nih.gov, koonin@ncbi.nlm.nih.gov R. L. Tatusov, A. R. Mushegian, K. E. Rudd, and E. V. Koonin are with the National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, MD 20894 W. S. Hayes and M. Borodovsky are with the School of Biology, Georgia Institute of Technology, Atlanta, GA 30332-0230 P. Bork and N. P. Brown are with the European Molecular Biology is hoperatory. Meyerhefstrase 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   predicted. An attempt was made to tentatively reconstruct all coding regions containing frameshifts or in-frame stop codons, including those that have been annotated as misc_features in ref.

1. The sequence was re-annotated based on this analysis. The DNA replication origin (oric) was chosen as the new zero point. Gene names were assigned to those and only those genes for which apparent orthologs could be identified in E. coli. Address all correspondence concerning the H. influenzae sequence re-analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         National Institute for Standards and Technology, Gaithersburg, MD, 20878. All other authors are with The Institute for Genomic Research, 932 Clopper Rd, Gaithersburg, MD, 20878 Predicted open reading frames were determined using GeneMark software, Kindly supplied by Mark Borodovsky, Georgia Institute of Technology, Atlanta, GA, 30332. e-mail: rdfleisc@tigr.org Annotation: Owen Robert D. Fielschmann e-mail: rdfleisc@tigr.org Annotation: Owen White e-mail: owhite@tigr.org Biological role information, putative identifications, sequence alignments, on-line name and sequence search capability are available at TIGR's World Wide Web site (URL: http://www.tigr.org/) **** Comment added by NCBI staff: The H. influenzae sequence was re-analyzed with several different methods for protein administration of the resulting and the formation of the resulting and the sequence was re-analyzed with several different methods for protein administration.
                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for protein similarity detection; the resulting set of predicted genes that have homologs in databases was used to re-train the GenMark program in order to predict additional genes among open reading frames without homologs. As a result, some predicted small genes from ref. 1 (with subsequent modifications) whose existence could not be corroborated were discarded, and 23 new genes were
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D-6900,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the European Molecular Biology Laboratory, Meyerhofstrasse
D-6900, Heidelberg, Germany. NCBI gi: 1220729
                                                                                                                                                                                   GPEYLAAFTVGDQLLWGAAEPVRRILKQLVA" complement(1328..2044)
                                                                                                                                                                                                                                                                                                                                                                                                                                         VFGGKDAGDLKSAFDIEELKKLDIIVTCQGGDYTNEVYPKLKATGWDGYWVDAASALR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="asd"
/star="
                       /codon_start=1
/transl_table=11
                                                                       gi: 1220731"
                                                                                                                                                                                                                                                        TIKLKKDLPLEEIEQIIASHNEWVKVIPNDKEITLRELTPAKVTGTLSVPVGRLRKLA
                                                                                                                                                                                                                                                                                                   LGGSLIPWIDKLLPETGQTKEEWKGYAETNKILGLSDNPIPVDGLCVRIGALRCHSQA
                                                                                                                                                                                                                                                                                                                                                AASGAGAKNMRELLSQMGLLEQAVSSELKDPASSILDIERKVTAKMRADNFPTDNFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="aspartate-semialdehyde dehydrogenase"
/db_xref="PID:g1220730"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="homolog of DHAS_ECOLI,
NCBI g1: 1220730"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /strain-"Rd"
                                                                                                                /note="homolog
                                                                                                                                     /standard_name="HIN0067"
                                                                                                                                                           /gene="yhiD"
'product="Mg2+-transporting ATPase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    translation="MKNVGFIGWRGMVGSVLMDRMSQENDFENLNPVFFTTSQAGQKA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'standard_name="HIN0066"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Haemophilus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ocation/Qualifiers
                                                                                                             of SSU20224_2, BLAST score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              influenzae"
```

BLAST

score:

99; HI0647;

NCB

```
CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                         WGLPILDLPLSFLLDTVLLPYAWAQ" complement(5417..5887)
                                                                                                                                                                                               NDDVLWERDKPKLTTEQKQEKTQNQLDRLRAILKS' complement(5208...5420)
                                                                                                                                                                                                                                       GILPHQTSIDEDNVEEERRLAYVGITRAQKELTFSLCRERRQYGELVRPEPSRFLAEL
                                                                                                                                                                                                                                                                                             WIVELNDEIQRSEPERAVRSMLSAIHYEEYLYEYATSPKAAEMQSKNVATLFDWVADM
              /gene="kdtB"
/standard_name="HIN0071"
                                                                               /product="H. influenzae predicted coding region HIN0070"
/db_xref="PID:g1220734"
/translation="MIKIFIFLTALIVLSGCGSVVKLIDPTEKYTAYAGVAYDLEMAQ
                                                                                                                                                                                                                                                                KGDETNEPMNLNQVVTRLTLRDMLERGEDDDDSDQVQLMTLHASKGLEFPYVYLIGME
                                                                                                                                                                                                                                                                                                                        \mathtt{AAFLRIVNTPKREIGTATLQKLGELAQEKHISLFEAIFEFELIQRITPKAYDSLQKFG}
                                                                                                                                                                                                                                                                                                                                                   KYKDYAILYRGNHQSRLLEKVLMQNRIPYKISGGTSFFSRAEIKDMMAYLRLVVNQDD
                                                                                                                                                                                                                                                                                                                                                                              RILHCANILIDNNEHVFDKKLFSTIGKGEKLLVIEAKNEEHEAERIVAELIAHRFSRK
                                                                                                                                                                                                                                                                                                                                                                                                         QYELIKLLVGDRACFTVVGDDDQSIYSWRGARPENMVRLRDDFPRLNVIKLEQNYRST
                                                                                                                                                                                                                                                                                                                                                                                                                                    FAKCYERYATQIRTYNALDFDDLIMLPTLLEKQNEEVRSKWQAKIRYLLVDEYQDTNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              MTLFDEHDQFALLKELTADVLKEDKDLLRELISVISNWKNDLISPKQAFALARDAKYQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPKQIAAVTFTNKAAREMKERVAHSIGKEQSKGLLVSTFHTLGFDILKREYKALGFKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="DNA helicase"
/db_xref="PID:g1220733"
/translation="MKLNPQQQQAVEYVTGPCLVLAGAGSGKTRVIINKIAHLIEKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MHFHKLNEFLGLTRLPTFLCNDVVKSPQVEQYLADYQAHLEKVFG'complement(3190..5202)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VLTALGHNVKETVIDAGYDVEAEIEKFLWMDAVIWQMPSWWMHEPWTVKKYIDEVLTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VKTCAIIAVTTCVLTIVSIQAAEHYAQVSENIRTDPMRLAAQVISGIGFLGAGVILHK
 'note-"homolog
                                                                                                                                                    /note="weak similarity to YEJM_ECOLI, BLAST score:
i10650; NCBI gi: 1220734"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HGKLYHSDGRHSVNPTEGYGTGGLLQGKKHMLSLTWNAPIEAFTREGDFFEGKGVDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product="modulator of drug activity"
/db_xref="PID:g1220732"
/translation="MATPFFFIIICFRSKKMNILLLDGGKAFGHSHGELNHTLHKKAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene-"mdaB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALLKAEDGVISVEVDN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              {	t RTKFNILVNDAESIGKVTQLLVNNQYRIEHIQVKDQSSGEVRLQIRCFSIDSTMLKDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          {	t NDAISGLTTAAIIWASAGIGIAAGAGFVFDAVIATVMILVSIRLSPLVQRWVHRKSQR}
                                                                                                                          transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="PID:g1220731"
/translation="MENSSLLLTALFNPDHLIIFSKMLLAMVLGSVIGLERELKRKPV
                                                                                                                                         codon_start-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'note="homolog of REP_ECOLI,
VCBI g1: 1220733"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /standard_name="HIN0069"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="homolog of MDAB_ECOLI, BLAST score: 633; HI0648;
NCBI g1: 1220732"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _name="HIN0068"
                                                                                                                                                                                   _name="HIN0070"
KDTB_ECOLI, BLAST score: 441; HI0651;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLAST score: 1657; HI0649;
                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Note: remainder of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
Submitted by:
                                                                                                                                                                                                                                                                (New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haemophilus
```

33333

```
The National Center for Genome Resources, Sante Fe, NM, 87505. Keith McKenney is with the National Institute for Standards and Technology, Gaithersburg, MD, 20878.

All other authors are with The Institute for Genomic Research, Clopper Rd, Gaithersburg, MD, 20878

Predicted open reading frames were determined using Genemark software, kindly supplied by Mark Borodovsky, Georgia Institute of Technology, Atlanta, GA, 30332. e-mail: mark@amber.gatech.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pirect Submission
Submitted (27-JUL-1995) to GSDB by: Owen White
3 (bases 1 to 12500)
Ratusov,R. L., Mushejian,A. R., Bork,P., Brown,N. P., Hayes,W. S.,
Borodovsky,M., Rudd,K. E. and Koonin,E. V.
Metabolism and evolution of Haemophilus influenzae deduced from a whole genome comparison with Escherichia coli
Curr Biol., in press (1996) in press
Address all correspondence to:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pleischmann,R.D., Adams,M.D., White,O., Clayton,R.A., Richards,E.F., Kerlavage,A.R., Bult,C.J., Tomb,J.-F., Coupderty,B.A., Merrick,J.M., McKenney,K., Sutton,G., FitzHugh,W., Fields,C.A., Gocayne,J.D., Scott,J.D., Shirley,R., Liu,L.-I., Glodek,A., Kelley,J.M., Weldman,J.F., Phillips,C.A., Spriggs,T., Hedblom,E., Cotton,M.D., Utterback,T.R., Hanna,M.C., Nguyen,D.T., Saudek,D.M., Brandon,R.C., Fine,L.D., Fritchman,J.L., Geoghagen,N.S.M., Gnehm,C.L., McDonald,L.A., Small,K.V., Fraser,C.M., Smith,H.O. and Venter,J.C., Whole-genome random sequencing and assembly of Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jean-Francois Tomb, Brian A. Dougherty, and
Hamilton O. Smith are with
the Johns Hopkins University School of Medicine, Baltimore,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HIU32694 12500 bp DNA
Haemophilus influenzae aroE, asd, kdta,
yhiD, yrdc, yrdD genes from bases 87095
of the complete genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          I (bases 1 to 12500) Fleischmann, R.D., Ada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complete genome; shotgun
                                                                                                                                                                                                                                                                                                                                                                                                        Joseph M. Merrick is with the State University of New York,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             h 2.6%; Score 22; DB 10; Similarity 73.9%; Pred. No. 4.06e+00; 34; Conservative 0; Mismatches 12
                                                                                                                                                                                                                                                                                                                                              Microbiology, Buffalo, NY, 14214. Chris Fields' current address
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Institute for Genomic Research
Clopper Rd, Galthersburg, MD, 20878
Raddress as of Sept 9, 1995: 9712 Medical Center Dr,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  annotations omitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI gi: 1220735"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            influenzae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1995) see COMMENT for author addresses to 12500)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               influenzae
Fleischmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BCT 29-FEB-1996 kdtB, mdaB, rep, tag, ) to 99594 (section 9 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 12500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

CDS

```
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             methods for protein similarity detection; the resulting set of predicted genes that have homologs in databases was used to re-train the GenMark program in order to predict additional genes among open reading frames without homologs. As a result, some predicted small genes from ref. 1 (with subsequent modifications) whose existence could not be corroborated were discarded, and 23 new genes were predicted. An attempt was made to tentatively reconstruct all coding regions containing frameshifts or in-frame stop codons, including those that have been annotated as misc_features in ref. 1. The sequence was re-annotated based on this analysis. The DNA replication origin (orig) was chosen as the new zero point. Gene names were assigned to those and only those genes for which apparent orthologs could be identified in E. coli. Address all correspondence concerning the H. influenzae sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 email tatusov@ncbi.nlm.nih.gov, koonin@ncbi.nlm.nih.gov R. L. Tatusov, A. R. Mushegian, K. E. Rudd, and E. V. Koonin are wi National Center for Biotechnology Information, National Library of Medicine,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biological role information, putative identifications, sequence alignments, on-line name and sequence search capability are available at TIGR's World Wide Web site (URL: http://www.tigr.org/) ***** Comment added by NCBI staff:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Heidelberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 European Molecular Biology Laboratory, Meyerhofstrasse 1, D-6900,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             School of Biology, Georgia Institute of Technology, Atlanta,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bethesda, MD 20894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bethesda, MD 20894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 National Center for Biotechnology Information, National Library of Medicine, National Institutes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eugene V. Koonin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     re-analysis and re-annotation to:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          e-mail: owhite@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              e-mail: rdfleisc@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     National Institutes of Health,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bork and N. P. Brown are with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hayes and M. Borodovsky are with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          influenzae sequence was re-analyzed with several different
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tatusov or
                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSQAFTIKLKKDLPLEEIEQIIASHNEWVKVIPNDKEITLRELTPAKVTGTLSVPVGR
LRKLAMGPEYLAAFTVGDQLLWGAAEPVRRILKQLVA"
COMPlement(1328..2044)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="aspartate-semialdehyde dehydrogenase"
/db_xref="piD:91220730"
/db_xref="piD:91220730"
/translation="MKNVGFIGWRGMVGSVLMDRMSQENDFENLNPVFFTTSQAGQKA
/translation="ELLKKLDITYTCQGGDYTNEYYPKLKATGWBCYWVDAASAL
RMKDDAIIVLDPVNQHVISEGLKKGIKTFVGGNCTVSLMLMAIGGLFEKDLVEWISVA
TYQAASGAGAKNMRELLSQMGLLEQAVSSELKDPASSILDIEKVTAKNRADNFPTDN
                                                                        GVKTCAIIAVTTCVLTIVSIQAAEHYAQVSENIRTDPMRLAAQVISGIGFLGAGVILH
KKNDAISGLTTAAIIWASAGIGIAAGAGFVFDAVIATVMILVSIRLSPLVQRWVHRKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complement(54..1169)
/gene="asd"
                                                                                                                                                                                                                                                                                                                                            /standard_name="HIN0067"
/note="homolog of SSU20224_2, BLAST score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FGAALGGSLIPWIDKLLPETGQTKEEWKGYAETNKILGLSDNPIPVDGLCVRIGALRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
/transl_table=11
KDAYALLKAEDGVISVEVDN"
                                        QRRRTKFNILVNDAESIGKVTQLLVNNQYRIEHIQVKDQSSGEVRLQIRCFSIDSTML
                                                                                                                                                /product="Mg2+-transporting ATPase"
/db_xref="PID:g1220731"
/translation="MENSSLLLTALFNPDHLIIFSKMLLAMVLGSVIGLERELKRKPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /standard_name="HIN0066"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /strain="Rd"
                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="yhiD"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="homolog of DHAS_ECOLI, BLAST score: 704; HI0646"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Haemophilus influenzae"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                        transl_table=11/
                                                                                                                                                                                                                                                                                                                /codon_start-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Germany.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Owen White
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Koonin are with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     얁
                                                                                                                                                                                                                                                                                                                                                    99;
                                                                                                                                                                                                                                                                                                                                                HI0647"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ဝှု
```

CDS

FEATURES

CDS

```
TNTSQYELIKLLYGDBACFTVYGDDOSIYSWRGARPENMYRLRÖDFPRLNYIKLEÖN
YRSTQRILHCANILIDNNEHVPDKKLFSTIGKGEKLLYI EAKKBEHEBERIVABLIAH
RFSRKTYKDYAILYRANGSRLLEKYLMÖNRIPYKLSGTTSFFSRAEIKDMAYLIAH
RFSRKTYKDYAILYRANGSRLLEKYLMÖNRIPYKLSGTTSFFSRAEIKDMAYLIAH
VNODDDAAFLRIVNTPKREIGTATLOKLGELAQEKHISLFEAIFEFELIQRITPKAY
DSLQKFGRWIVELNDEIQRSEPBRAVRSMLSAHYEEFIYFYRTSPKAAEMQSKNVAT
LFDWYADMLKGDETNEPBNLNOVTRLTLTUNGLERGEDDDDSDQVQLMTLHASKGLEF
PYVYLLGMEEGILPHOTSIDEDNVEEERRLAYVGITRAQKELTFSLCRERRQYGELVR
DEPSRFLAELPKDDVLMERDKEKLTTEQKQEKTQNQLDRLRAILKS
COMPLEMENT (5208...5420)
/standard_name="HIN0070"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="MKLNPQQQQAVEYYTGPCLVLAGAGSGKTRVIINKIAHLIEKCG
YSPKQIAAVTFTNKAAREMKERVAHSIGKEQSKGLLVSTFHTLGFDILKREYKALGFK
SNMTLFDEHDQFALLKELTADVLKEDKDLLRELISVISNWKNDLISPKQAFALARDAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="matperfyiicfrskkmiillloggkargherherlikkak
Evltalghnyketyiptagydveaeiekflymdavinompswymhepytykkyidevlt
Nghgklyhsdgrhsvaptagygtggllogkkihklslywapieaftredffegkgvd
Vlymhfhklnefigitrlptflcndvvkspqveqyladyqahlekvfg"
                                                              LLRKIDSLRTLMKQDRPIWIAASTHNGEDEIILKSHRALLAKYPNLLLLLVPRHPERF
NVVADLLKKEKFQFIRRSTNELPNENTQVILGDSMGELMLMYGISDIAFVGGSLVKHG
                                                                                                                                /translation="MWREFYTSLLLICOPLILCFIGLLSYKSPRYRORLAERYGFYGN
ASCPPPGII HAASYGEVIAATPLYWCLOOYDFLISITFTFIFTGSSRVKATFGDS
VEHYXLPLDLPSSHRE INFVOPKLCIVMETELWPNLIHQLFLRNIFPFIANARLSAR
SAHRYGKIKAHLQTMWSQISLIAAQDNISGKRYATLGYPKEKLNITGNIKYDLNTNDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MTSVIYPGTFDPITNGHLDIIERSAVIFPRVLVAVANSPSKKPL
FSLEERVELVRQSVVHLSNVEVFGFSDLLANVIKQHNISAIIRGVRTTTDFEYELQLA
ALNRLLTKGVDSLFFPPAEKWAFVSSTIVREIYLHGGDVAELVPVPVFNALKAR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(5417..5887)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QWGLPILDLPLSFLLDTVLLPYAWAQ"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product="H. influenzae predicted coding region HIN0070"
/db_xref="PID:g1220734"
/translation="MIKIFIFLTALIYLSGCGSVVKLIDPTEKYTAYAGVAYDLEMAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complement(3190..5202)
SRERLGNAGYEVLMENRGALQRLLDLLKPYLERNV"
                                    GHNPLEPLAFKMPVITGKHTFNFPEIFRMLVEVQGVLEVNSTADALERAVEALLNSKE
                                                                                                                                                                                                                                                                               /transl_table=11
/product="3-deoxy-d-manno-octulosonic-acid transferase"
/db_xref="PID:g1220736"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complement(5884..7167)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /standard_name="HIN0071"
/note="homolog of KDTB_ECOLI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YQTFAKCYERYATQIRTYNALDFDDLIMLPTLLFKQNEEVRSKWQAKIRYLLVDEYQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product="DNA helicase"
/db_xref="PID:g1220733"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="homolog of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="rep"
/standard_name="HIN0069"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /standard_name="HIN0068"
/note="homolog of MDAB_E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="mdaB"
                                                                                                                                                                                                                                                                                                                                                                                                                      'note="homolog of KDTA_ECOLI, BLAST score: 914; HI0652"
                                                                                                                                                                                                                                                                                                                                                                                                                                                       /standard_name="HIN0072"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'gene="kdtA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'product "lipopolysaccharide core biosynthesis protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="kdtB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'note-"weak similarity to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db_xref="PID:g12207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'product="modulator of drug activity'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            db_xref="PID:g1220735"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytidilyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REP_ECOLI, BLAST score: 1657; HI0649"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MDAB_ECOLI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YEJM_ECOLI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLAST score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BLAST score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLAST score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     441; HI0651"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  633; HI0648*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60;
```

CDS

Note: remainder of annotations omitted

Length 12500;

CDS

CDS

CDS

```
JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                  CDS
                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8749 ttttaaaatttcagcatcaactgaagccgttccaccacttaatcca 8794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202 TTCTAAAATTTCTGGATCATCCAGGCCTGTTCCACCAATTATTCCA 157
                                                                                                                                                                                                                                                                                                                          DS 407/10a binding domains; Chromosomal segregation;
Encyl CoA binding domains; Chromosomal segregation;
Encyl CoA hydratase; homeobox; pep5; Rough;
Serine/threenine protein kinase; smc1; STE20;
Vacuolar biogenesis protein.

NISM Chemorhabditis elegans
Enkarycate; mitochondrial eukaryctes; Metazoa; Nematoda;
Rhabditidae; Caenorhabditis.

Rhabditidae; Caenorhabditi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CER06F6 4141
Caenorhabditis 6
Z46794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 73.9%; 34; Conservative
JOIN (276..377,437..571,632..1045,1095..1400,1454..1600)
/notce "CDNA EST CEESM68F comes from this gene; cDNA EST CEESS88F comes from this gene; cDNA EST yk62b6.5 comes from this gene; cDNA EST yk62b6 acomes from this gene; cDNA EST yk64d3.5 comes from this gene; cDNA EST yk64d3.5 comes from this gene; cDNA EST yk64d3.
                                                                                                                                                                                                                                                                                                                    t of this sequence (1..98) overlaps with the end of CET19E10.
                                                                                                                                            /chromosome="II"
join(276..377,43
                                                                                                                                                                                                       /organism="Caenorhabditis elegans"
/clone="R06F6"
                                                                                                                                                                                                                                                                                        ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41452 bp DNA
is elegans cosmid R06F6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . No. 4.06e+00;
Mismatches 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-JAN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sgo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
```

```
99ne; ODAN EST YABAD.3 Comes from this gene; CDAN EST YP1916.5 Comes; CDAN EST YP1916.3 Comes; CDAN EST YP1916.3 Comes; From this gene; CDAN EST YP1042.3 Comes from this gene; CDAN EST YP1042.5 COMES from this gene.

JOHICLIS. 10216.7 MILLIAHVALLSVSYSANVDMTGFGLPADNHKVALGGPLOSAGE COMES FROM EST YP1042.5 COMES from this gene.

JOHICLIS. 10216.7 MILLIAHVALLSVSYSANVDMTGFGLPADNHKVALGGPLOSAGE COMES FROM EST YP1042.5 COMES from this gene.

JOHICLIS. 10216.7 MILLIAHVALLSVSYSANVDMTGFGLPADNHKVALGGPLOSAGE COMES FROM EST YP1042.5 COMES from this gene.

JOHICLIS. 10216.7 MILLIAHVALLSVSYSANVDMTGFGLPADNHKVALGGPLOSAGE COMES FROM EST YP1042.5 COME
```

CDS

```
/product="RO6F6.5"
/db_xref="pid:9571765"
/db_xref="pid:9571765"
/db_xref="pid:9571765"
/db_xref="pid:9571765"
/db_xref="pid:9571765"
/translation="mrshlontsgrhusdhlkdtpgsksvhwspslvqsgeksaaq
TVPSSYTASPLNTASAPCSDIFAVSAPAVPQHLKDTPGSKSVHWSPSLVQSGEKSAAQ
TQNTPANISFGRNSFSAPTKPAPQSIOTSSFGGQAMHAPPLRSLRDKVEPAKKISRR
NTFTARSTPLSTPITQRYTSRLÆBEBQPMEEBDAADTWTVFUFGFQPSQVSILLNIE
SRHGEVVSHQTPSKGNFIHMRYSCVTHAQQAISRNGTLLDQDTFIGVVQCTNKDVING
SASGIVARSSWIAAAANRSASMYNSFVENDMADQSVNHNENGYLNSSNVFDANNSLNS
                                                                                                                                                                                                                                VESAKHEEEITVEQQQQPEDLEQGDMIVEDGDQQFMMWQITQEDMYEAGFDVEAGFE
LNHLTEEQLNIVVAISQQRQAKQNEQEHNEEVYIEDGSHHHWHHEMIINQFEGGNG
PEEEVGGNGOIIDNAMHIILITMDGGYWITSKOVIEDGSHHHWHHEMIINQFEGGNG
QUQLALPPIKEKAQDSAYNDQAPSTSYHHHHHEQLEAGKSTRSPIIGETVQIRTADG
MASVWKYVRGDSEYKIQLMNGEFAYATIDQHLVHTPNFCCPICDKXVYOKERS
MASVNRAQKKSANDDLCPPULKKYQLAFVVDGPHLVHTPNFCCPICDKXVYOKERS
XIVIRLPACDSCYHKGRSRPRVSVSCKNYKNGTTGILVPVKILKTGQQNSRSRENTPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="CDNA EST CEEST88F comes from this gene; cDNA EST ykl0g9.3 comes from this gene; cDNA EST yk21h11.3 comes from this gene; cDNA EST yk22h11.5 comes from this gene; cDNA EST yk22h11.5 comes from this gene; cDNA EST yk47c1.5 comes from this gene; cDNA EST yk48h2.5 comes from this gene; cDNA EST yk88h2.5 comes from this gene; cDNA EST yk88h2.5 comes from this gene; cDNA EST yk88h2.5 comes from this gene; cDNA EST yk82d6.3 comes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement(join(28010..28079,28137..29078,29714..29846,
29895..30012,30062..30281,30682..31664,32263..32554,
329895..30012,30062..30281,30682..3186,32263..32894,
32989..33787,1..338971..3368,33689..33789..33789,33853..34296,
34347..34457,34507..34647,35132..35346,37261..37597,
37771..37877,37930..38018,38064..38506,38552..38729,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SRISVRSGVGMRPLAADQRINGTPSVRKAPDGLINKFWNTIGLN"

Join(20156..20257,20501.20589,22181..2243)..22615,

20668..22989,23996..24152,24266..24351,24417..24551)

/note-"homeobox protein, which possibly is the homolog of the drosophila rough gene (Swiss Prot accession number contents.
                                       TGQROKRDTGIDTLYBGNYKHINTLSTNDRPSYLQLPKHEKDSTAADIKSIVAARDRR
LIAVAINDAIYIMLANPQLLLCSYGVIDANFKETRGELKEIYMKPDSTSIAVTINQCK
ILIYNLDLRDDEQCYNFTDSADPYFORNSPELFIKGSRFTAHLHFTIIINLADIFTCC
VPSRDEFLYCLQNGFTHHVTWTGEIIASLSFRASSIPFSVDQLQSKSENITSKSTYIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="R06F6.7"
/db_xref="pID:g577767"
/db_xref="pID:g577767"
/tamslation="MRSMIPILVLFAVLAVFAQAGKSSESDESRRRPSKSSESSDSDS
KSSDSDSSSSEESSGDVPSEAPNTDSTPVEILAAAKPDSGILLGPGDNRVKRDGLPSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TQATGEDMPTQIQTASPPTTADSAIFPPTSPESIIQKIEQFPSNQILPNFDILQTYLQ
SLSSSQIPLQFVPSTPPLEDMNLQLYHVIFESTSQSETCSVSFQRNSASNMTSLLIFV
FFATIFAVDAQIDSADSSQSEDLEDIAPESVSSEEIIEVDVNIEGSGSGDGPIIDQVH
MFGILPGPGDIRKKRGILEILGRK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Translation="MHRKGGQTLRLYTHFLLHLSPHHHSFLDSIWQRKMVHPSSAFHP
YTRPIPTSGHDLPVDDSLRLLLSAEALIALAGUQDASKILPSEPVKDFSPQLLPAM
TPTPIIATBSIPEQPOPLGSBSAPKBUKSKSRKRTTESPEQATRLEAEYIGDSYMARKEK
HLLAQSLKLSENQVKTWFQNRRAKDKRDRKSENASNHTSNSRRSSPSRKSSSDSTPTP
DAYYAPLLGGFAI'VLSDGQGALLTSNDPNFAPNAI'LGVWAPNMKDATCCDVNHKFLLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product-"R06F6.8"
/product-"R06F6.8"
/db_xref-"PID:9577768"
/translation-"MDSEKENPASPTTGREEEIPGSSPEGVYPADEDHIFHEDQAPLR
/translation-"MDSEKENPASPTTGREEEIPGSSPEGVYPADEDHIFHEDQAPLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38780..38841)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YDIRKKRGLPSAYDIRRK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 join(25838..25889,26496..26611,26664..26858)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             product="R06F6.6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'codon_start='
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rom this gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          db_xref="PID:g577766"
```

Sg

දි දි

Note: remainder of annotations omitted.

Query Match 2.6%; Score 22; DB 26; Best Local Similarity 92.3%; Pred. No. 4.06e+00; Matches 24; Conservative 0; Mismatches :

Length 41452;

0;

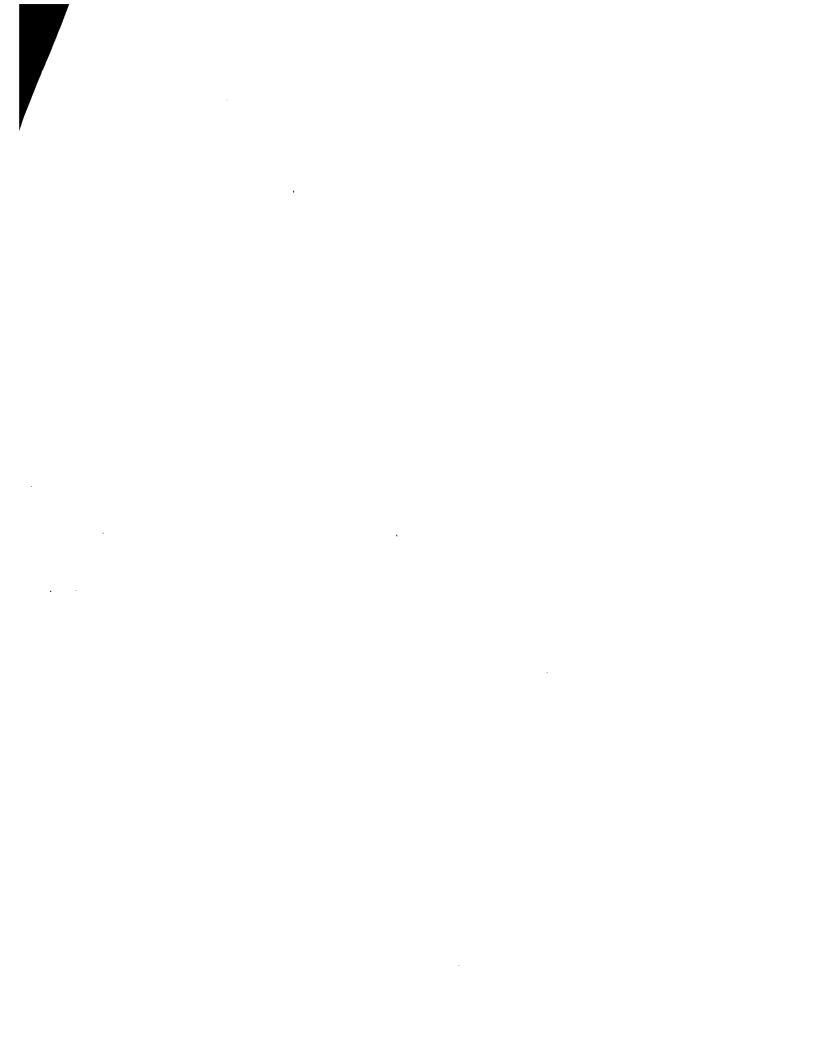
Gaps

0;

11613 aataaaacagaaaaatgggcgatatt 11638

960 AATAAAACAGAAAACTGGGCCATATT 935

Search completed: Mon Feb 10 23:54:38 1997 Job time: 637 secs.



‡ ₋
· ''
‡ //
*
* *
*! <u></u>

Release 2.1D John F. Collins, Biocomputing Research Unit. Copyright (c) 1993, 1994, 1995 University of Edinburgh, U.K. Distribution rights by IntelliGenetics, Inc.

MPsrch_nn n.a. - n.a. database search, using Smith-Waterman algorithm

Tabular output not generated. Mon Feb 10 23:54:57 1997; MasPar time 88.81 Seconds 833.805 Million cell updates/sec

>US-08-674-311-1 (122-970) from US08674311.seq (2 of 2) 849

Description:
Perfect Score:
N.A. Sequence:
Comp: 122 ATGGCCTCTGGCACCACCAC......CTGTTTTATTACCAAGACAT 970
TACCGGAGACCGTGGTGGTG......GACAAAATAATGGTTCTGTA

Scoring table: TABLE default Gap 6

Nmatch STD : Dbase 0; Query 0

Searched: 113505 seqs, 43611913 bases x 2

Post-processing: Minimum Match 0% Listing first 45 summaries

Database:

n-geneseq25
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7
8:part8 9:part9 10:part10 11:part11 12:part12 13:part13
14:part14 15:part15 16:part16 17:part17 18:part18
19:part19 20:part20 21:part21 22:part22

Statistics: Mean 8.967; Variance 4.877; scale 1.839

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

c 116	11111	0 0	00	Result
333			240 240 73	Score
ა ა ა ა, ა, ა,		3.4.4.9	28.3 28.3 28.3 7.5	Query
114 114 114	1114 1114 1114	91 204 204 114	2763 2763 2784 1047 1047	Query Match Length
12 12	12	1211	115 12 12	BG
Q70470 Q70467 Q70465	Q70469 Q70465 Q70468 Q70467	Q51746 N81164 N81164 Q70469	T15167 Q92813 Q9282 Q99202 Q10572 Q10572 Q10572	Ħ
Generic DNA sequence Generic DNA sequence Generic DNA sequence	Generic DNA sequence Generic DNA sequence Generic DNA sequence Generic DNA sequence	Oligonucleotide probe Base substituted E.co Base substituted E.co Generic DNA sequence	Methylthioadenosine-p Human MTAse. Pseudomonas putida me Human Natriuretic Pep Human Natriuretic Pep Oligonucleotide probe	Description
6.50e-05 6.50e-05	6.50e-05 6.50e-05	2.82e-12 5.29e-11 4.02e-09 1.70e-05	9.50e-159 9.50e-159 9.50e-159 9.50e-33 2.34e-33 4.78e-27 1.45e-13	Pred. No.

ဂ္ဂ

be used in diagnosis of cancer, particularly melanoma (especially

ი	c	ი		ი	ი					ი	ი				a		ი	ი	ဂ	ი	ი	O	ဂ	ים	o	
4 4 5 4	43	42	41	40	39	38	37	36	35	34	<u>ω</u>	32	31	30	29	28	27	26	25	24	23	22	21	20	19	τα
22 22	22	22	22	22	22	23	23	23	23	24	24	24	24	24	25	25	25	25	25	25	27	27	28	28	28	8
ა ა ი ი	٠	•	٠	•		•		٠	٠	٠	•	٠	•	•	•	٠	•	•	•	•	•	٠	•	•	٠	٠
565 657																										
76																										
Q35072 Q43519	150030	N50034	T13583	T13584	13586	35072	T13611	13612	13613	70473	Q70471	Q70471	Q70472	13610	70472	Q70473	13610	T13611	13612	13613	13583	13585	70470	070466	თ	σ
HCV envelope region n Degenerate FMN reduct	e encoding	ce encoding ne	library	TSAR-9 library genera	TSAR-9 library genera	egio	DC43 TSAR library gen	library	묽	DNA s	DNA	Generic DNA sequence	Generic DNA sequence	AR li	Generic DNA sequence	NA sequer	TSAR library	3 TSAR library	TSAR	TSAR library	ģ	TSAR-9 library genera	ល	Generic DNA sequence	DNA S	
1.50e+00 1.50e+00							4.63e-01			1.39e-01		1.39e-01	1.39e-01		4.09e-02	4.09e-02								9.06e-04		

ALIGNMENTS

```
RESULT.

RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ភភភភជ
Query Match
Best Local S
Matches 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 24
                                                                                                                                                                                                                                                       06-70L-1995.
06-70L-1995.
07-20-DEC-1994: U14920.
29-DEC-1993: US-176855.
(CIBA ) CIBA GEIGY CORP.
(CIBA ) CIBA GEIGY CORP.
(REGC ) UNIV CALIFORNIA.
Carson DA, Nobori T, Takabayashi K;
WPI: 95-246398/32.
Detecting methyl:adenosine phosphatase in mammalian cells - by hybridisation with specific oligonucleotide for detecting malignancy, also new nucleic acid, expression vectors, derived polypeptide(s) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag-
exon
/*tag-
                                                                                             Claim 8; Page 34-35; 47pp; English.

A cosmid gene library constructed from human placenta DNA was screened using a MTase cDNA probe to isolate a human MTase genering expense given in Q92813). Absence of MTAse from a central condition of malignancy.

Sequence 2763 BP; 778 A; 501 C; 602 G; 805 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag=
exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag-
exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human MTAse.
MTAse; methyladenosine-phosphatase;
Homo sapiens.
Location/Qualifiers
Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q92813 standard; DNA; 2763
Q92813;
Q5-DEC-1995 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dysplastic nevus syndrome), glioma, non-small cell lung carcinoma or leukaemia. The gene may also be used in cancer gene therapy, in antitumour antisense oligonucleotide or ribozyme construction. Antibodies against CDK4I may be used in diagnosis or in vivo imag sequence 2763·BP; 780 Å; 505 C; 598 G; 803 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= e
W09518233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aggttcttatagagactgctaagaagctaggactccggtgccactcaaaaggggacaatgg 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tttgttacgcaagtatcgccatgggcacagattatgactgctggaaggagcacgaggaag 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGTTCTTATAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGACAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ch 28.3%;
l Similarity 99.2%;
242; Conservative
                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1205
28.3%;
larity 99.2%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1640..1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 964..1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  616..720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers 254..421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2272..2310
Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 240; DB 19;
Pred. No. 9.50e-159;
0; Mismatches 2;
Mismatches
                         240; DB 15;
No. 9.50e-159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               malignancy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2763;
                                                Length 2763;
  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels 0;
                                                                                                                                                    genomic
cell
  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               imaging
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or
r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         629
```

962 aggttcttatagagactgctaagaagctaggactccggtgccactcaaaggggacaatgg 1021

```
HESOLLT IN RESOLLT IN RESOLLT IN RESOLLT IN RESOLLT IN RESOLUTION IN RES
ğ
                                                                                        QY
                                                                                                                                                    밁
                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 28.3%;
Best Local Similarity 99.2%;
Matches 242; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= a
W05517908-A1.
06-JUL-1995.
22-DEC-1994; U14919.
29-DEC-1993; US-176413.
(REGC) UNIV CALIFORNIA.
Carson DA, Nobori T;
WPI; 95-246192/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    selective methionine starvation of methyl:thio:adenosine phosphorylase negative tumour cells - used in chemotherapy of mammalian malignant cells.

Disclosure: Page 27-28; 46pp: English.
Antigenic peptides may be generated from this sequence encoding methyladenosine-phosphorylase, which are then used to generate antibodies specific for MTASE. The produced antibodies may be used in an immunoassay for the detection of MTASE. Sequence 2784 BP; 781 A; 505 C; 598 G; 804 T;
                                                                                                                                                      1142
                                                                                                                                                                                                                                                       1082
                                                                                                                                                                                                                                                                                                                                                        1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-MAR-1996 (first entry)
Pseudomonas putida methylthioadenosine-phosphorylase Di
Enzyme; MTAase; L-Met-L-deamino-gamma-mercaptomethane-
chemotherapy; cancer therapy; methionine starvation; s:
pseudomonas putida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q99202 standard; DNA;
Q99202;
07-MAR-1996 (first er
                                                   1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1022
     018
                                                                                                                                                                                                                                                                                                          630
                                                                                                                                                                                                                                                                                                                                                                                                           570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               810
                                                                                                      750
                                                                                                                                                                                                       690
                                                                                                                                                                                                                                                                                                                                                                                                                                     962 aggttcttatagagactgctaagaagctaggactccggtgccactcaaaagggggacaatgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  570
     CAGT
                                                                                                                                                                                                 CAGT
                                                cagt 1205
                                                                                                      TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                                                                                                                                                                    AGGITCITATAGAGACIGCIAAGAAGCIAGGACICCGGIGCCACICAAAGGGGACAAIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cagt 1205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | tttgttacgcaagtatcgccatgggcacagattatgactgctggaaggagcacgaggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gggcggatgttatcaacatgaccacagttccagaggtggttcttgctaaggaggctggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | tcacaatcgagggacctcgttttagctcccgggcagaaagcttcatgttccgcacctggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
1..2763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 240; 1
Pred. No. 9.:
0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 16; I
).50e-159;
ches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2784;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lyase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                    1201
                                                                                                                                                                                                       749
                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                        689
                                                                                                                                                                                                                                                                                                                                                                                                        629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  629
```

```
RESULT OF A RESULT
                             밁
                                                                           Ş
                                                                                                                                   밁
                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-JAN-1991
22-JUN-1990; U03586.
23-JUN-1989; US-370673.
(GETH ) GENENTECH INC.
Chang M, Goeddel D, Lowe D
WPI; 91-036711/05.
N-PSDB; Q10324.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Natriuretic protein receptor B - for diagnosis and treatment of kidney failure, heart failure, hyperaldosteronism, glaucoma etc. Claim 3; Fig 1: 49pp; English.

The sequence was derived from the DNA encoding natriuretic peptide receptor B, NPRB, having guanyl cyclase (GC) activity and protein kinase activity. The DNA can be inserted into expression vectors for the prodn. of the protein, opt. after being mutated to produce MPRB analogues. The protein has a mol wt. of 115 kD (calculated MT-114,952). The protein (or variants) can be used in treatment of natriuretic peptide disorders, and also to isolate peptides using affinity chromatography. Antibodies with affinity for NPRB can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human Natriuretic Peptide Receptor B.
NPRB; ANP; BNP; CNP; kidney failure; heart fa
hyperaldosteronism; glaucoma; guanyl cyclase.
                                                                                                                                                                                                                                                                                                                                                                                             also be prepd.
Sequence 1047 BP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= n-glycos_site
Modified -site 600..602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "GC and protien kinase
Modified -site 24..26
/label= N-glycos_site
Modified -site 35..37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q10572 standard; DNA; 1047 BP Q10572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= N-glycos_site
Modified -site 277..279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label- N-glycos_site
/nodified -site 195..197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= n-glycos_site
Modified -site 161..163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Modified -site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= N-glycos_site
Modified -site 244..246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label = extracellular domain /note = "binds natriuretic peptides
                                                                                                                                                                                      131
                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= N-glycos_site
Modified -site 349..351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= transmembrane domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'label- mature NPBR
                             341
                                                                                191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'label- cytoplasmic domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'label= signal
                                                                                                                                   281
                                                                                                                                                                                                                                                                                          Local Similarity
les 68; Conser
nnnyanvnnntnnnggtrndgnrnvnkmngrryhgvtgnv-vmdknndrntdnvnwamgd 399
                                                                             GAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAGCCATCTGAT 250
                                                                                                                                                                                                                                 grnvyncgnnnmnhnnnnnanrnnntngdyvnnyndvngnsnragntratgrnwndnrtr 280
                                                                                                                           nnananrnanntvnvntyrnnnnnnynnnnnrnnnrarndngvnngnsnmnnnagcnydg 340
                                                                                                                                                                                 GCCACCACCACCGCCGTGAAGATTGGAATAATTGGTGGAACAGGCCTGGATGATCCA 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-glycos_site
                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1..22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       456..456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23..455
                                                                                                                                                                                                                                                                                                               8.6%;
                                                                                                                                                                                                                                                                                                                                                                                          87 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ö
                                                                                                                                                                                                                                                                                                               Score 73;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 activity'
                                                                                                                                                                                                                                                                                                                                                                                             15 C;
                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A, B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      heart failure;
                                                                                                                                                                                                                                                                                                               DB 2; L
2.34e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                             83 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ជ្
                                                                                                                                                                                                                                                                                       506;
                                                                                                                                                                                                                                                                                                                                       Length 1047
                                                                                                                                                                                                                                                                                                                                                                                          51
                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein kinase;
                                                                                                                                                                                                                                                                                                                                                                                             Η.
                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           X
H
                                                                                                                                                                                                                                                                                       9
```

```
8
                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                       δÃ
                                                                                                                            밁
                                                                                                                                                           Ş
                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
)UT 5
Q10572 standard;
Q10572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 487
                                                                                       907 ATGGTCAGAAACCCTCCATAACCTGAAGAATATGGC
                                                                                                                                                                                                                                    787
                                                                                                                                                                                                                                                                       877
                                                                                                                                                                                                                                                                                                          727
                                                                                                                                                                                                                                                                                                                                                                                                                                                      607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    251 GCCTTAATTTTGGGGAAGATAAAAATGTTGATTGCATCCTCCTTGCAAGGCATGGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCGTTTTGCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGGACTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nrgssygsnmtahgkynnnantghnkgnvvankhvnkkrnnntrnvnnnnkhmrdvnnnh 578
                                                                                                                          anknhvssttkdandnngcnnnnnrgdvnmkgkgkm
                                                                                                                                                                                                                                CTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCCTGAAAGA 846
                                                                                                                                                                                                                                                                  stnmnvvtnnndnytcndanndnndvyk-vntngdaymvvsgnngrngnrhannnarman
                                                                                                                                                                                                                                                                                                                                        nrtnaynnnkrkanannynnnnhsvannnkrgntvnanandsv-tnynsdnvgntansan
                                                                                                                                                                                                                                                                                                                                                                             AAGCTTCATGTTCCGCACCTGGGGGGGGGGGGTTTATCAACATGACCACAGTTCCAGAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttgmnaadvysngnnnnnanrsgnnynngndnsnknnvnkvrngnrnynrnsndrtnnn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nsshgsnkssncvvdsrnvnkntdygnasnrstannddnnanyakknntannnnsgnnnn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGTGCCATATTCCAATGGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ntrnngacndnnnncnvtnycnrgsnndnnnndsnnndwmnrysnnndnvkgmannhnsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vangtgntnnmngvssnnnnrknmnnknnasmnwrnrwnnnnngnsnryhkgagsrntns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGCTTTGAAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ndsgdnnnaahys-ganknnwwtgrnnnwvkgannsdnnncandnddnscdktnnstnan
                                                                                                                                                             AAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTCCACAGA
                                                                                                                                                                                           anndavssnrnrhrnhdnnrnrngvhtgnvcagvvgnkmnrycnngdtvntasrmnsngn
                                                                                                                                                                                                                                                                                                       GGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGATTATGA 786
                                                                                                                                                                                                                                                                                                                                                                                                               nnnvnnmn-rcwandnanrndngnnkgnnrrnnknggtsnndnnnnrmnnyannnnknvn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -AGCCCGG-CGATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAGACCTCA
                    DNA;
                    1047
                    ВP
                                                                                                                            1031
                                                                                         942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    310
                                                                                                                                                                                                 995
                                                                                                                                                                                                                                                                                                                                            876
                                                                                                                                                                                                                                                                                                                                                                             726
                                                                                                                                                                                                                                                                                                                                                                                                                 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                    666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          518
```

```
09-APR-1991 (first entry)
Human Natriuretic Peptide Receptor B.
NPRB; ANP; BNP; CNP; kidney failure;
                                  /label= cytoplasmic domain /note= "GC and protien kin Modified -site 24..26
                 /label= N-glycos_site 
Modified -site 35..3
                                                               Domain
                                                                               Protein
                                                                                                                                            Peptide
                                                                                                                                                               Homo sapiens.
                                                                                                                                                                       hyperaldosteronism; glaucoma;
                                                                                                            Domain
                                                                      'label - transmembrane domain
                                                                                                /label= extracellular domain
                                                                                                                    /label=
                                                                                                                                   'label- signal sequence
N-glycos_site
d -site 161..163
                                                                                                                  mature NPBR
                                                             479..1047
                                                                                                                                                     Location/Qualifiers
                                                                                                           23..455
                                             kinase
                                                                                                                                                                       guanyl
                                                                                        A, B
                                                                                                                                                                       cyclase.
                                                                                                                                                                                heart failure;
                                                                                       and
                                                                                        ្ន
                                                                                                                                                                               protein
```

/label= N-y-. Modified -site ..ahel= N-glycc

N-glycos_site d -site 195..197

N-glycos_site d -site 277..279

lycos_site ite 244..246

```
망
                                                                                                               СÞ
                                                                                                                                              В
                                                                                                                                                                           Сþ
                                                                                                                                                                                                          ДĎ
                                                                                                                                                                                                                                    Сb
                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                  င္
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                            Сþ
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                        Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
Сþ
                         멍
                                                     Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vlabel N-glycos_site
W091092-A.
10-AN-1991.
22-JUN-1990; U03586.
23-JUN-1899; US-370673.
23-JUN-1899; US-370673.
(GETH ) GENENTECH INC.
Chang M, Goeddel D, Lowe D
WPI; 91-36711/05.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Label = N-glycos_site Modified -site 349..3 /label = N-glycos_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Natriuretic protein receptor B - for diagnosis and treatment of kidney failure, heart failure, hyperaldosteronism, glaucoma etc. Claim 3; Fig 1; 49pp; Emglish.
The sequence was derived from the DNA encoding natriuretic peptide receptor B, NPRB, having guanyl cyclase (GC) activity and protein kinase activity. The DNA can be inserted into expression vectors for the proden. of the protein, opt. after being mutated to produce NPRB analogues. The protein has a mol wt. of 115 kD (calculated Mr-114,952). The protein for variants) can be used in treatment of natriuretic peptide disorders, and also to isolate peptides using affinity chromatography. Antibodies with affinity for NPRB can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; Q10324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified -site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          931
                                                                                                                                                                                                                                                                                                                                                                   813
                                                                                                                                                                                                                                                                                                                                                                                                                             873
                                                                                                                                                                                                                                                                                                                                                                                                                                                           174
                                                                                                                         574
                                                                                                                                                                                                                                              693
                                                                                                                                                                                                                                                                                                         753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hwrnnnntagavasgnsakndhyrtnvrtgnsankngnnvvtnhghnnwtaraannynda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGGTTATGGAGGGTTTCTGACCATTC-TGTGGACCCTATCTGAG-GTATGGTAGTGAGC
                                                                                                                      AACCTCTCTCGTTTTGGGGCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCCTCTGG
                                                                                                                                                                                                                                                                        nnnggtrndgnrnvnkmngrryhgvtgnvvmdknndrntdnvnwamgdndsgdnnnaahy
                                                                                                                                                                                                                                                                                                         CAPATTCCAGCCTCCTTAGCAAGAACCACCTCTGGAACTGTGGTCATGTTGATAACATCC
                                                                                                                                                                                                                                                                                                                                  vnvntyrnnnnnynnnnrnnnrarndngvnngnsnmnnag-cnydgnnnyanvnnnt
                                                                                                                                                                                                                                                                                                                                                                     ACTGCTTCCTCGTGCTCCTTCCAGCAGTCATAATCTGTCGCCATGGCGATACTTGCGTAA
                                                                                                                                                                                                                                                                                                                                                                                      hnnnnnanrnnntngdyvnnyndvn-gnsnragntratgrnwndnrtrnnananrnannt;
                                                                                                                                                                                                                                                                                                                                                                                                                               AGTAAGCTTTTGGCTTTATTAGCGTTTTCTTTCAGGGTCTTTAAGACCCGGTCCACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         {\tt rtdd} {\tt rnhyntnngvnnanngsnnsvnhnvyarnnggnnnathnnrangrnvyncgnnnmn}
                           ncnvtnycnrgsnndnnnndsnnnd-wmnrysnnndnv-kgmannhnsnnsshgsnkssn
                                                                                                                                                   vssnnnnrknmnnknnasmnwrnrwnnnnngnsnryhkgagsrntnsnrgssygsnmtah
                                                                                                                                                                                    GTGACCATTGTCCCCTTTGAGTGGCACC-GGAGTCCTAGCTTCTTAGCAGTCTCTATAAG
                                                                                                                                                                                                               sganknnwwtgrnnnwvkgannsdnnncandnddnscdktnnstnanvangtgntnnmng
 gkynnnantghnkgnvvankhvnkkrnnntrnvnnnnkhmrdvnnnhntrnngacndnnn
                                                                                                                                                                                                                                             GCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTCGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-glycos_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 h 7.5%; Score 64; DB 2; Length 1047
Similarity 9.5%; Pred. No. 4.78e-27;
77; Conservative 219; Mismatches 501; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prepd.
e 1047 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                83 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11;
                                                                                                                                                                                                                                                                                                                                                                                                                                   814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                233
                                                                                                                             516
                                                                                                                                                                                                                    471
                                                                                                                                                                                                                                                   634
                                                                                                                                                                                                                                                                               411
                                                                                                                                                                                                                                                                                                                694
                                                                                                                                                                                                                                                                                                                                             351
                                                                 456
```

```
Сb
                                                                                                                                                                                                                                                                                                                                                                                                               දි
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               င္မ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
 ç
                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-1993.
01-DEC-1993.
24-MAY-1993; 108325.
24-MAY-1992; US-889651.
26-MAY-1992; BCCTON DICKINSON CO.
(BECT ) BECTON DICKINSON CO.
Shank DD, Spears PA;
WPI; 93-378844/48.
New Oligo:nuclocide probes sidetection and amplification o
                                                                                                                                                                                                                                                                                                                                                                                            samples
Claim 3; Page 14; 23pp; English.
Claim 3; Page 14; 23pp; English of nucleotides 5-95 of Oligonucleotide probe MK14-A consists of nucleotides 5-95 of October 14 to all spp. of nucleotides may cross reacted to a few non-mycobacterial spp. The probe may be useful as an initial screen for mycobacterial infection. See also O51735-45 and O51747-59.
See also O51735-45 and O51747-59.
Seequence 91 BP; 5 A; 17 C; 15 G; 4 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-MAY-1994 (first entry)
Oligonucleotide probe MK14-A
Oligonucleotide; DNA probe; r
                                                                                                                                                                                                                  Q51746;
Q51746;
Synthetic.
EP-571911-A.
01-DEC-1993.
01-DEC-1993.
24-MAY-1993; 108325.
26-MAY-1992; US-689651.
26-MAY-1992; US-689651.
Shank DD, Spears PA;
WPI; 93-378844/48.
New Oligo:nuclectide probes specific for Mycobacteria - New Oligo:nuclectide probes specific for Mycobacteria acid detection and amplification of Mycobacteria nucleic acid
                                                                                                                                                                 31-MAY-1994 (first entry)
Oligonucleotide probe MK14-A
Oligonucleotide; DNA probe; n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 156
                                                                                                                                                                                                                                                                                          709 CATGITGATAACATCCGCCCCCAGGTGCGGAACATGAAGCITTCTGCCC
                                                                                                                                                                                                                                                                                                                       12 svhsyyvvhvvshhhsvhhvvhvkvvvvhhvvhvvhhvhyhvyvsvc
                                                                                                                                                                                                                                                                                                                                                     y Match 5.2%;
Local Similarity 2.0%;
hes 1; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCTTCACGGCGGTGGTGGTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           dnytcndanndnndvykvntngdaymvv 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTTCAGTTCTTCCTAAAATTTCTGGATCATCCAGGCCTGTTCCACCAATTATTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       {\tt rkanannynnnnhsvannnkrgntvnanandsvtnynsdnvgntansanstnmnvvtnnn}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTTTTATCTTCCCCAAAATTAAGGCATCAGATGGCTTGCCAAATGGAGTATCCACATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   andnanrndngnnkgnnrrnnknggtsnndnnnnrmnn-yannnnknvnnrtn-aynnnk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCTTTGAAGGCATGATGGTGTGCTGCCTTCCATGCCTTGCAAGGAGGATGCAATCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ngnnnnnnanrsgnnynngndnsnknnvnkvrngnrnynrnsndrtnnnnnnvnnmnrcw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cvvdsrnvnkntdygnasnrstannddnnanyakknntannnnsgnnnnttgmnaadvys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                   91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mycobacteria;
                                                                                                                                                                                                                                                                                                                                                      Score 44; DB 9; L
Pred. No. 1.45e-13;
46; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          specific for Mycobacteria - of Mycobacteria nucleic acid
                                                                                                                                                                       mycobacteria; disease diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                     Length 91;
                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             used
d in
                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   769
                                                                                                                                                                                                                                                                                                                                                             0
```

```
RESULT
ID N
AC N
DT 0
                                                                                                                                                ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##3333333
                                                                                       ဌ
                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                      밁
                                                                                                                                                                                                                                                                                                        Introducing random point mutations into nucleic acods -
Typepp of single stranded template, annealing a primer, elongation,
Typepp of single stranded template, annealing a primer, elongation,
Typepp of single stranded template and screening.

Disclosure, p. English.

Random point mutations were introduced into the alpha fragment of
E. coli beta-galactosidase. The wild type sequence was obtained as a
single stranded template and oligonucleotide was hybridised to
it to generate a popn of DNA molecules which terminate at all
possible nucleotide positions within a specified region. The
variable 3' ends generated in this way are used as primers for
reverse transcriptase. Nucleotides are misincorporated by the
transcriptase and the molecules are completed to forms that can be
amplified and then expressed in a suitable host-vector system.

The sequence covers all 176 difft base substitutions, most of which
                                                                                                                                                                                                           Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 samples
Claim 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 3; Page 14; 23pp; English.

Oligonucleotide probe MK14-A consists of nucleotides 5-95 o (Q51735). It hybridized to all spp. of mycobacteria tested cross reacted to a few non-mycobacterial spp. The probe mabe useful as an initial screen for mycobacterial infection. See also Q51735-45 and Q51747-59.

Sequence 91 BP; 5 A; 17 C; 15 G; 4 T;
N81164 standard; DNA; 204
N81164;
08-NOV-1990 (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N81164; standard; DNA; 204 BP.
N81164;
N81164;
N8-NOV-1990 (first entry)
Base substituted E.coli beta-galactosidase alpha-fragment.
E.coli beta galactosidase alpha-fragment; base substitutions;
Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SUSO) SUOMEN SOKERI OY.
Lehtovaara P. Knowles J.
WPI: 88-279927/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAR-1988; 105163.
03-APR-1987; US-034819.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                    occurred singularly 
See also P80575.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EP-285123-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           é
                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /function=multiple cloning site
primer_bind 187..204
                                                                                                                      149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          825
                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag=
                                                                                         180
                                                                                                                                                                              89
                                                                                                                                                                                                           Local Similarity
mes 9; Conse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11 ssvhsyyvvhvvshhhsvhhvvhhvhvsvvvvhhvvhhvhyhvyvsvctca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                        nncncccbnnhvchnvhbnnhrnwayvrhdarrd 182
                                                                                       AGGCCTGTTCCACCAATTATTCCAATCTTCACGG
                                                                                                                                                                           ttthhyrrmrbnvyrdynrsdaaawyccyrrsvkydccynachhddhyvybbbvynvhnh 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGTCTTAMAGACCCTGAAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCA
                                                                                                                                                204 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4.9%;
larity 7.4%;
Conservative
   (first entry)
                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers 19..69
                                                                                                                                                                                                                                                                                                in any
                                                                                                                                                                                                                       4.78;
                                                                                                                                                                                                                                                                   21 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Koivula A,
                                                                                                                                                                                                                                                                                                given mutant.
                                                                                                                                                                                                        Score 40;
Pred. No.
51; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 42; DB 9; I
Pred. No. 2.82e-12;
                                                                                                                                                                                                                                                                   47 C;
                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bamford J, Reinikainen
                                                                                                                                                                                                                                                                   17 G;
                                                                                                                                                                                                                       DB 1;
5.29e-11
                                                                                                                                                                                                                                                                   11 T;
                                                                                                                                                                                                           34;
                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 91;
                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                       204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tested,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5-95 of
                                                                                                                                                                                                                                                                   108
                                                                                                                                                                                                                                                                                                               most of which
                                                                                                                                                                                                                                                                    Others;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              elongation,
                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MK14
                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                          0
```

```
RESULT AC OF SECOND SEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 1
                                             18 AUG-1994.

01-FEB-1994; U00977.

01-FEB-1993; US-013416.

30-DEC-1993; US-175500.

31-JAN-1994; US-189331.

(UXNC-) UNIV NORTH CAROLINA.
FOWLKES DM, KAY BK;
WP1: 94-279799/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ULT 10
Q70469 standard;
Q70469;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Random point mutations were introduced into the alpha fragment of E.coli beta-galactosidase. The wild type sequence was obtained as a single stranded template and an oligonucleotide was hybridised to it to generate a popn of DNA molecules which terminate at all possible nucleotide positions within a specified region. The variable 3' ends generated in this way are used as primers for reverse transcriptase. Nucleotides are misincorporated by the transcriptase and the molecules are completed to forms that can be amplified and then expressed in a suitable host-vector system. The sequence covers all 176 difft base substitutions, most of which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Generic DNA sequence to generate a random TSAR peptide library. TSAR; totally synthetic affinity reagent; synthetic; binding do effector domain; concateneated heterofunctional protein; linker direct; rapid; detection; screening; treatment; generic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP-285123-A.
05-MAY-1988.
30-MAR-1988; 105163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Base substituted E.coli beta-galactosidase alpha-fragment. E.coli beta galactosidase alpha-fragment; base substitutic Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    occurred singularly in any given mutant. See also P80575.
Sequence 204 BP; 21 A; 47 C; 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Introducing random point mutations into nucleic acods by prepn of single stranded template, annealing a primisincorporation, completion of molecules and screening
                                                                                                                                                                                                                                                                            WO9418318-A.
                                                                                                                                                                                                                                                                                                              sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-APR-1995 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; p; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SUSO) SUOMEN SOKERI OY.
Lehtovaara P. Knowles J. Koivula A. Bamford J. Reinikainen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-APR-1987; US-034819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /function=multiple cloning primer_bind 187..204
  Identifying proteins or peptide(s) which bind a ligand screening a recombinant vector library expressing fusion
                                                                                                                                                                                                                                                                                                                                                           /note= "this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    888 CTCAGATAG--GGTCCACAGAATGGTCAGAAACCCTCCA 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152
                                                                                                                                                                                                                                                                                                                                                                                                           isc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hhyrrmrbnvyrdynrsdaaawyccyrrsvkydccynachhddhyvybbbvynvhnhnnc 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ncccbnnhvchnvhbnnhrnwayvrhdarrddvhccvch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTTAAAGACCCTGAAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         h 4.48;
Similarity 13.18;
13; Conservative
                                                                                                                                                                                                                                                                                                                         s sequence represents 'Z'; Z 6,9 or 12 nucleotides (see
                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers 19..69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            114 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 37;
Pred. No.
53; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.02e-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                                                                                                         can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           base substitutions;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Η,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer,
  fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       108
  proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             elongation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŗ
```

```
PT comprising a binding domain and an effector domain

PS Disclosure; Page 35; 255pp; English.

CC Q70469 is a generic DNA sequence used to generate random TSAR peptide

CC This generic formula can be represented as follows: X(TGC)(NNB)10-

CC Sites (X is not the same as Y) that are not specified further. This

CC sequence generates peptides that are cloverleaf in structure. Other

CC generic sequences are shown in Q70465-68. Other specified further

CC generated by these generic sequences are shown in R5150-54. TSARS are

CC concatenated heterofunctional proteins or peptides, comprising at least

CC two functional regions - a binding domain with affinity for a ligand and

CC a second effector peptide portion that is chemically or biologically

CC active. They may further comprise a linker peptide between the 2 domains.

CC The oligonucleotides are also designed so that the expressed peptide

CC contains 2 or 4 cysteine residues postitioned in, or flanking, the

CC conformational rigidity to the peptides. The TSARS or compsis. comprising

CC a TSAR binding domain can be used in vivo to deliver a chemically or

CC or enzyme, to the specific target or on the cell. They can also replace

CC contains 2 or in vivo another, eg. monoclonal or polyclonal antibodies

CC daracterised and have designed activity allowing direct and rapid

CC detection in a screening process.

A C. A C.
        Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
FT /note= "this sequence represents 'Z'; Z can be a
FT sequence of 6,9 or 12 nucleotides (see
FT comments)"
FT sequence of 6,9 or 12 nucleotides (see
FT comments)"
PN W09418318-A.
PD 18-AUG-1994.
PN W09418318-A.
PP 01-FEB-1994; U00977.
PR 01-FEB-1994; US-176500.
PR 30-DEC-1993; US-176500.
PR 30-DEC-1993; US-189331.
PR (UYNC-) UNIV NORTH CAROLINA.
PR (UYNC-) UNIV NORTH CAROLINA.
PI (FOWLKS DM, Kay BK;
PR 11-JAN-1994; US-189331.
PR (UYNC-) UNIV NORTH CAROLINA.
PI Fowlks DM, Kay BK;
PT screening a recombinant vector library expressing fusion proteins
PT comprising a binding domain and an effector domain
PT screening a recombinant vector library expressing fusion proteins
PT comprising a binding domain and an effector domain
Screening a generic DNA sequence used to generate random TSAR peptide
CC (TGC)(NNB)62(NNB)10-CC
CTGC)(NNB)62(NNB)14(TGC); X and Y are flanking restriction
CC sites (X is not the same as Y) that are not specified further. This
CC sequence generates peptides that are cloverleaf in structure. Other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-APR-1995 (first entry)
Generic DNA sequence to generate a random TSAR peptide library.
TSAR; totally synthetic affinity reagent; synthetic; binding dome
effector domain; concateneated heterofunctional protein; linker;
direct; rapid; detection; screening; treatment; generic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T 11
Q70469 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/note= "this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h 3.7%;
Similarity 6.3%;
7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in a screening
                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g process.
A; 4 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
Pred.
29; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e 31; DB 12; Le
. No. 1.70e-05;
Mismatches 75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cc generate sequences are shown in 070465-68. Other specific peptides concatenated by these generic sequences are shown in R65150-54. TSARS are concatenated heterofunctional proteins or peptides, comprising at least two functional regions - a binding domain with affinity for a ligand and ca second effector peptide portion that is chemically or biologically cactive. They may further comprise a linker peptide between the 2 domains. Cc rate oligonucleotides are also designed so that the expressed peptide contains 2 or 4 cysteine residues positioned in, or flanking, the cumpredicted or variant residues. These residues confer some degree of cc conformational rigidity to the peptides. The TSARS or compsns. comprising caffordisted or variant residues. These residues confer some degree of cc a TSAR binding domain can be used in vivo to deliver a chemically or composically active molety, eg. metal ion, radiolsotope, peptide, toxin cr enzyme, to the specific target or on the call. They can also replace the function of macromolecules, eg. monoclonal or polyclonal antibodies and therefore circumvent the need for complex methods of hybridoma cc characterised and have designed activity allowing direct and rapid cc detection in a screening process.

Sequence 114 BP; 0 A; 4 C; 4 G; 4 T;
FT sequence of 6, 9 or 12 nucleotides (see
FT comments)*
FT comments)*
PN WO9418318-A.
PD 18-AUG-1994
PN WO9418318-A.
PD 18-AUG-1994
PN WO9418318-A.
PD 18-AUG-1994
PN WO9418318-A.
PD 18-AUG-1994
PN 01-FEB-1993; US-013416.
PR 01-FEB-1993; US-013416.
PR 01-FEB-1993; US-013416.
PR 01-FEB-1993; US-013416.
PR 01-FEB-1994; US-013416.
PR 01-FEB-1934; US-013416.
PR 01-FEB-1934;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JLT 12
Q70465 standard; F
Q70465;
Q5-APR-1995 (fir
Generic DNA sequence of the sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-APR-1995 (first entry)
Generic DNA sequence to generate a random TSAR petide library.
Generic DNA sequence to generate a random TSAR petide library.
TSAR; totally synthetic affinity reagent; synthetic; binding dom
effector domain; concateneated heterofunctional protein; linker;
direct; rapid; detection; screening; treatment; generic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
/note= "this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   466 CAGGACCACTATGAGACCTCAGTCCTTCTATGATGGAAGTCATTCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66 btgcnnbnnbnnbnnbnnbnnbnnbnnbnnbnnbnnbnnbtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
5; Conse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence represents 'Z'; Z can
5, 9 or 12 nucleotides (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4.58
8.58
8.58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 30; DB 12; Le
Pred. No. 6.50e-05;
30; Mismatches 73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                     ij
```

នក្តុខភិត្តិកំពុត្ត

밁 ş В

S

```
PT Identifying proteins or peptide(s) which bind a ligand - by screening a recombinant vector library expressing fusion proteins PT comprising a binding domain and an effector domain Disclosure; Page 35, 255pp; English.

CC Q70468 is a generic DNA sequence used to generate random TSAR (Totally CC Synthetic Affinity Reagents) peptides. This generic formula can also be CC represented as follows: X(NNB)1(TGC)(NNB)5Z(NNB)7(TGC)(NNB)10Y. X CC and Y are flanking restriction sites (X is not the same as Y) that are CC not specified further. Other generic sequences are shown in Q70466-68.

CC Other specific peptides generated by these generic sequences are shown in CR5151-54. TSARs are concatenated heterofunctional proteins or peptides, CC comprising at least two functional regions - a binding domain with CC affinity for a ligand and a second effector peptide portion that is CC peptide between the 2 domains. The oligonucleotides are also designed so that the expressed peptide contains 2 or 4 cysteine residues positioned CC in, or flanking, the unpredicted or variant residues. These residues conformational rigidity to the peptides. The TSARs or comprise comprising a TSAR binding domain can be used in vivo to CC deliver a chemically or biologically active moiety, eg. metal ion, CC cradioisotope, peptide, toxin or enzyme, to the specific target or on the CC cell. They can also replace the function of macromolecules, eg.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               comments)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              that the expressed peptide contains 2 or 4 cysteine residues positioned in, or flanking, the unpredicted or variant residues. These residues confer some degree of conformational rigidity to the peptides. The TSARs or compsns. comprising a TSAR binding domain can be used in vivo to deliver a chemically or biologically active molety, eg. metal ion, radioisotope, peptide, toxin or enzyme, to the specific target or on the cell. They can also replace the function of macromolecules, eg. monoclopal or polyclonal antibodies and therefore circumvent the need
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UYNC-) UNIV NORTH C. Fowlkes DM, Kay BK; WPI; 94-279739/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Generic DNA sequence to generate a random TSAR petide library. TSAR; totally synthetic affinity reagent; synthetic; binding domain; effector domain; concateneated heterofunctional protein; linker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-APR-1995 (first e
Generic DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q70468 standard;
Q70468;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 activity allowing direct and rapid detection in a screening process. Sequence 114 BP; 0 A; 2 C; 2 G; 2 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for complex methods of hybridoma formation or in vivo antibody production. The TSARs are easily characterised and have designed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-FEB-1993; US-013416.
30-DEC-1993; US-176500.
31-JAN-1994; US-189331.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB; R65154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note- "this"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    454 TCAGTTCATTGACAGGACCACTATGAGACCTCAGTCCTTCTATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394 GACCACAGCTTGTGGCCTCCTTGAGGGAGGAGATTCAGCCCGGCGATATTGTCATTATTGA 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lsc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rapid;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 detection; screening; treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ø,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or 12 nucleotides (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAROLINA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     represents 'Z';
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 30;
Pred. No.
30; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.50e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ě
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               generic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
RESULTANCE OF THE PROPERTY OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ននននន
                                                                               In identifying proteins or peptide(s) which bind a ligand - by Iridentifying proteins or peptide(s) which bind a ligand - by screening a recombinant vector library expressing fusion proteins processing a binding domain and an effector domain of the proteins processing a binding domain and an effector domain of the proteins processed as follows: X(NRB)16(TGC)(NRB)12(NRB)16(TGC)(NRB)12 X CC (Synthetic Affinity Reagents) peptides.This generic formula can also be CC represented as follows: X(NRB)16(TGC)(NRB)12(NRB)16(TGC)(NRB)12 X CC (Synthetic Affinity restriction sites (X is not the same as Y) that are CC (therefore the specific of the specific peptides generic sequences are shown in Q70466-68. CC (therefore the specific of the specific peptides generated by these generic sequences are shown in CC (R65151-54. TSARS are concatenated heterofunctional proteins or peptides. CC comprising at least two functional regions - a binding domain with CC (CC (R6511-54. TSARS are concatenated heterofunctional proteins or peptides. CC (CC (R6511-54. TSARS are concatenated heterofunctional proteins or peptides. CC (CC (R6511-54. TSARS are concatenated heterofunctional proteins or peptides. CC (CC (R6511-54. TSARS are concatenated heterofunctions a linker (CC (CC (R6511-54. TSARS are concatenated heterofunctions a linker (CC (CC (R6511-54. TSARS)) are domains. The oligonucleotides are also designed so that the expressed peptide contains 2 or 4 cysteine residues positioned (CC (R6511-54. TSARS)) are degree of conformational rigidity to the peptides. The SARS (CC (CC (R6511-54. TSARS)) are comprised a linker (CC (R6511-54. TSARS)) are comprised and hold of the specific target or on the (CC (R6511-54. TSARS)) are comprised and hold herefore circumvent the need for complex methods of hybridoma formation of macromolecules, eg.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      717 14
Q70467 standard;
Q70467;
Q70467 (fir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-FEB-1993;
30-DEC-1993;
31-JAN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    comments)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        monoclonal or polyclonal antibodies and therefore circumvent the need for complex methods of hybridoma formation or in vivo antibody production. The TSARs are easily characterised and have designed activity allowing direct and rapid detection in a screening process. Sequence 114 BP; 0 A; 2 C; 2 G; 2 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYNC-) UNIV NORTH Fowlkes DM, Kay BF WPI; 94-279739/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Generic DNA sequence to generate a random TSAR petide library. TSAR; totally synthetic affinity reagent; synthetic; binding effector domain; concateneated heterofunctional protein; linke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               direct; rapid; detection; screening;
                                                                  The TSARs are easily
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P-PSDB; R65153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-FEB-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9418318-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note- "this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63 bnnbnnbnnbnnbnnbtngcnnbnnbnnbnnbnnbnnbnnbnnbnnbnnb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTTGTGCCAGAGGAGTGTGCCATATTCCAATGGCTGAGCCGTTTTGCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATTGATCAGTTCATTGACAGGACCACTATGAGACCTCAGTCCTTCTATGATGGAAGTCA 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bnnbnnbnnbnnbnnbnnbnnbnnbnnbtgcnnbnnbnnbnnbnnbnnbnnnnnnnnn 62
                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; US-013416.
; US-176500.
; US-189331.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kay BK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence represents 'Z';
6, 9 or 12 nucleotides (se
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
detection P; 0 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAROLINA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.5%;
                                                                  characterised and have designed activity allowing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
   in a
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 30;
Pred. No.
31; Misma
   screening process.
C; 2 G; 2 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Z'; Z
; (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               treatment; generic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12;
6.50e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ь́е
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                   Ωy
                                                                                                                                         멍
                                                                                                                                                                                                                                                                          PT Identifying proteins or peptide(s) which bind a ligand - by PT Identifying proteins or peptide(s) which bind a ligand - by PT Screening a recombinant vector library expressing fusion proteins PT comprising a binding domain and an effector domain PS Disclosure; Page 36; 255pp; English.

CC 070470 is a generic DNA sequence used to generate random TSAR (Totally CC Synthetic Affinity Reagents) peptides. This generic formula can also be CC represented as follows: X(NNB)4(CAC)(NNB)4(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(NNB)6(CAC)(NNB)8Z(N
Š
                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 1.9%;
Matches 2; Conservative
                                                                                                                                                                                       Query Match
Best Local Similarity 10.7%;
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= "encoded by Z (see comments)"
//note= "encoded by Z (see comments)"
//note= "encoded by Z (see comments)"
//note= 1994 (00977.
01-FEB-1994 (00977.
01-FEB-1993 (US-013416.
01-FEB-1993 (US-176500.
31-JAN-1994 (US-189331.
31-JAN-1994 (US-189331.
(UYNC-) UNIV NORTH CAROLINA.
FOWLKES DM, SKAY BK;
WPI: 94-27977934.
WPI: 94-27977934.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Generic DNA sequence to generate a random TSAR peptide library. TSAR; totally synthetic affinity reagent; synthetic; binding domain; effector domain; concatenated heterofunctional protein; linker; direct; rapid; detection; screening; treatment; generic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              472 CACTATGAGACCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCC 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      412 CTTGAGGGAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGAC 471
                                                                                              909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63
666 AAAGCTTCATGTTCCGCACCTGGGGGGGGGGGTGTTATCAACATGACCACAGT 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                        63 bnnbnnbnnbnnbcaccnbnnbnnbnnbnnbnnbnnbnnbcaccacnnb 114
                                                                                                                                         ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bnnbnnbnnbcacnnbnnbnnbcacnnbnnbnnbnnbnnbnnbnnbnnbnnnnnnn 62
                                                                                           GGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAG 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers 55..60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 6.50e-05; 31; Mismatches 73;
                                                                                                                                                                                          Score 30; DB 12; Length 114; Pred. No. 6.50e-05; 26; Mismatches 74; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                  0;
```

Search completed: Mon Feb 10 23:56:31 1997 Job time : 94 secs.

Perfect Score: N.A. Sequence: Comp: Database: Post-processing: Nmatch Scoring table: Title: Tabular output not generated. Run on: Description: MPsrch_nn STD: Release 2.1D John F. Collins, Biocomputing Research Unit. Copyright (c) 1993, 1994, 1995 University of Edinburgh, U.K. Distribution rights by Intelligenetics, Inc. n.a. - n.a. database search, using Smith-Waterman algorithm EST-STS 1:EST1 2:EST2 3:EST3 4:EST4 5:EST5 6:EST5 7:EST1 9:EST1 2:EST10 11:EST11 12:EST12 13:EST13 14:EST14 9:EST9 10:EST10 11:EST11 12:EST12 13:EST13 14:EST14 15:EST15 16:EST16 17:EST17 18:EST18 19:EST19 20:EST20 21:EST21 22:EST22 23:EST23 24:EST23 25:EST23 25:EST23 24:EST23 23:EST23 24:EST23 23:EST23 24:EST23 23:EST23 24:EST24 25:EST24 24:EST24 24:EST24 24:EST24 24:EST24 24:EST24 24:EST24 24:EST24 25:EST25 25:E EST-STS-TWO 100:EST100 101:EST101 102:EST102 103:EST108 104:EST104 105:EST105 106:EST106 107:EST107 108:EST108 109:EST109 106:EST106 107:EST107 108:EST108 109:EST109 110:EST110 111:EST111 112:EST112 113:EST113 114:EST114 115:EST115 116:EST116 117:EST117 118:EST118 119:EST119 120:EST120 121:EST121 122:EST127 128:EST123 124:EST124 125:EST125 126:EST126 127:EST127 128:EST128 129:ESTS1 129:ESTS1 130:STS2 131:STS3 132:STS4 133:STS5 134:STS6 135:STS7 136:STS2 137:STS9 138:STS10 139:UEEST 140:gnEST1 141:gnEST2 142:gnEST3 143:gnEST3 144:gnEST5 145:gnEST6 146:gnEST3 147:gnEST3 143:gnEST4 144:gnEST5 145:gnEST1 156:enEST3 157:enEST1 158:enEST3 159:enEST3 159:enEST3 160:enEST4 161:enEST5 162:enEST6 163:enEST7 164:enEST8 166:enEST9 166:enEST9 166:enEST8 167:enEST8 167:enE Minimum Match 0% Listing first 45 summaries TABLE default Gap 6 630489 seqs, 220513910 bases Dbase 0; Query 0 >US-08-674-311-1 (122-970) from US08674311.seg (2 of Mon 99:EST99 122 ATGGCCTCTGGCACCACCACC......CTGTTTTATTATCCAAGACAT 970 TACCGGAGACCGTGGTGGTG......GACAAAATAATGGTTCTGTA Feb 10 23:56:55 1997; MasPar time 440.34 Seconds 850.327 Million cell updates/sec × 2 (MT)

173:enSTS1 174:enSTS2

Statistics: Mean 10.783; Variance 1.823; scale 5.916

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

a	O			ი	a	o	n	ი					,	ი (,	C)	O	O	ი	O		O		(n	(י כ	0.0			a			ი				;	1	Res
4 4	43	42 42	40	39	2 L	36	ω	34	33	32	31	30	20	28	270	2 0	2 л 4	23	22	21	20	19	18	17	16	2 4 1 1	1 1	2 L	; <u>-</u>	10	9	œ	7	თ	σı	4	ω	N	_ ;	ŏ	ult
20	200	20	20	20	2 0	20	20	20	20	21	21	21	21	21	2 1	2 6	21	21	21	21	21	21	21	21	21	21	21,	2 1	2 1	22	22	22	23	23	23	24	49	49	67		
24	2.4	2.4	•) N		٠	٠		•					•	٠	ر ا ا	•	•	•		•						•	•	•	•	•	•		•	•			. ,	5.	% Ouerv
48	00	42	ω,	0	ρ π Ε	65	49	32	9	70	70	50 0	א מכ	<u>ب</u>	א ה	3 0	4. 17	46	29	94	80	57	49	2	2 0	υ, ν ν	3 6	35	35	81	18	32	35	4	N	47	8	0	œ۱	5	
146		28		167	102 201	Ĥ	-		տ	s	o o	169	▶ 0	٥.	л _С	7 7	1 5	117	74	72	22	œ	135	~ (J 4) ۵	٠,		۰ ۵	169	CI		107	N	مبو	N	173		50	BB	
015	o N	H09697 H71681	715	599	RICS	491	T53348	7738	ZYD	322	22	MM0531	3 6	40000 00000	л с	, 6	N25437	5	8	029	H52428	9090	HS273ZC9	25	W17604	HSC3ADO11	D/1777	W04230	HSW04230	M1627	W13162		T22905	ELK002	TTS2467		8829	7388		ID	
a80f09.rl Soares	zb13g08.rl Soares f	rl Homo sapi rl Homo sapi	166f01.rl Homo sapie	y71e05.rl Homo sap	Rice cDNA, partial	85f08.rl Homo sapi	88cl0.rl Homo sapi	ST05628 Homo sapi	sapiens partial	a83d08.rl Soares mo	83d08.rl Soare	rl Soares	ageno ri soares	19351 Homo santen	TIUS.FI HOMO Sap	seu/.sz caenorna	r1 Homo	51d12.r1 Homo sa	7g02.rl Homo sapi	2f06.r2 Caeno	q78c10.s1 Homo sap	61 Arabidopsis t	sapiens (D12S33	74h08 rl Soares	mb74b08 rl soares	apiens partial c	YUUSEII.II HOMO Sapi	bsooll willows sent	43eU2.rl Soare	a74d12.rl Soares mo	ma74d12.rl Soares	elegans cDNA clon	4913 Arabidopsis t	elegans cDNA clon	. thaliana transc	egans cDNA clone	n STS SHGC-1	an STS SHGC-1442	vte c	scripti	
3e-	1.93e-	1.93e-02 1.93e-02	.93e-02	93e-	1.93e-	93e-02	.93e-	1.93e-0	93e-02	.06e-0	. 06e-0	1.056-03	0.00	1 0 6 6 6	. Ube-0	. 06e-0	0	1.06e-	.06e-0	e-0	.06e-0	. 06e-03	. 06e-	9 0	040-00	9 6	0000	. Use-U	.06e-0	08e-	5.08e-0	08e-05	2.15e-	.15e-0	15e-0	.11e-08	956-	250-50	79e-9	red. N	

ALIGNMENTS

REFERENCE	SOURCE ORGANISM	KEYWORDS	ACCESSION	RESULT 1 LOCUS
Eutheria; Primates; Haplorhini; Catarrhini; Hominidae. 1 (bases 1 to 168)	Homo sapiens Epidermis Keratinocyte cDNA to mRNA. Homo sapiens	g599506 EST(expressed sequence tag).	eratino	HUMNK726 168 bp mRNA EST 01-DEC-1994

```
JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                      RESULT 2
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                     KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         153
                                                                                                                                                                                                                                                                                                                                                                                                                       213 AAAATATGTGGATACTCCATTTGGCAAG 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.9%;
Local Similarity 93.3%;
hes 83; Conservative
                                                                                                                                                                            G17388
400 bp DNA
ION human STS SHGC-14428 clone pG-7320.

O17388
91214814
STS sequence; primer; sequence tagged site.
STS sequence; primer; sequence tagged site.
human plasmid clones, generated from a lymphoblastoid cell line from a human male. Localized to human chromosome 9 by analysis on the NIGMS Human/Rodent Somatic Cell Hybrid Panel #1, Coriell Institue for Medical Research, Camden, NJ 08103.

ISM Homo sapiens
Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata; Eukaryotae; mitochondrial eukaryotes; Sarcopterygii; Choanata; Vertebrata; Gnathostomata; Osteichthyes; Sarcopterygii; Choanata; Tetrapoda; Anniota; Mammalla; Theria; Eutheria; Archonta; Primates; Catarrhini; Hominidae; Homo.

E 1 (bases 1 to 400)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ttaaatatgtggatac-ccatttggcaag 105
                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yamanishi, K. and Yasuno, H. Cataloging of the genes expressed in human keratinocytes: of 607 randomly isolated cDNA sequences Blochem. Blophys. Res. Commun. 202 (2), 976-983 (1994) 94324994 (11-Mar-1994) to DDBJ by: Klyofumi Yamanishi Department of Dermatology Ryoto Prefectural University of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Konishi,K., Morishima,Y.-I., Ueda,E., Nonomura,K., Kibe,S., Yamanishi,K. and Yasuno,H. Unpublished (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 (sites)
Konishi,K., Morishima,Y., Ueda,E., Kibe,Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Phone: 75-251-5587
Fax: 75-251-5587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kyoto, Kyoto, 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kamigyo-ku
Primer A:
Primer B:
STS size:
                                                                            Contact: Richard M. Myers
Stanford Human Genome Center (SHGC)
Stanford University School of Medicine
Department of Genetics, M-344, Stanford,
Tel: 4157259687
                                                                                                                                                          Unpublished (1996)
                                                                                                                                                                      Myers, R.M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/cell_line="primary culture"
/cell_type="Keratinocyte"
/sequenced_mol="CDNA to mRNA"
/tissue_type="Epidermis"
/tissue_type="5] 62 t
                                                   myers@shgc.stanford.edu
  TGTGGATACTCCATTTGGCA
TCACAAATCAAGCCAGCAAG
90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 67; DB 50;
Pred. No. 1.79e-90;
0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 168
                                                                                              CA 94305,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nonomura, K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2
        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                      Myers R.M.;
                                                                                                                                                                                                                                   1-400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCR Profile:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Buffer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protocol:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h 5.8%;
Similarity 98.2%;
55; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Template:
Primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thermal Cycler:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Polymerization:
PCR Cycles:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dNTPs:
Taq Polymerase:
Total Vol:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Initial incubation:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Annealing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tris-HCl:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /map-"9"
complement(131..150)
/map-"9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /map="9"
61..80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/note="human"
61..150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25 ng
each
each
0.05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8.3
8.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94 degrees
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94
62
72
30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Perkin
```

Š

밁

Ş 밁

```
Contact: Richard M. Myers Stanford Human Genome Center (SHGC)
Stanford University School of Medicine Department of Genetics,
Mr-344, Stanford, CA 94305, USA Tel: 4157259687 Fax: 4157259689
Mr-344, Stanford, CA 94305, USA Tel: 4157259687 Fax: 4157259689
Email: myers@shgc.stanford.edu Primer B: TGTGATATCCATTTGGCA
Primer B: TCACAAATCAAGCCAGCAAG STS size: 90 PCR Profile: Initial
Primer B: TCACAAATCAAGCCAGCAAG STS size: 90 PCR Profile: Initial
Incubation: 94 degrees C for 90 seconds Denaturation: 94 degrees C
for 15 seconds Annealing: 62 degrees C for 23 seconds
Polymerization: 72 degrees C for 30 seconds PCR Cycles: 30 Thermal
Cycler: Perkin Elmer 9600 Protocol: Template: 25 mg Primer: each 1
UM dNTPs: each 200 uM Tag Polymerase: 0.05 units/ul Total Vol: 10
ul Buffer: MgCl2: 2.5 mM KCl: 50 mM Tris-HCl: 20 mM pH: 8.3
Chromosome 9. NCBI 91: 1214814
                                                                                                                                                                                                                                                                                                                                                                                         HS388293 standard; DNA; STS; 400 BP. G17388; 07-MAR-1996 (Rel. 47, Created) 07-MAR-1996 (Rel. 47, Last updated, Version 1) human STS SHGC-14428 clone pG-7320. primer; sequence tagged site; STS sequence. Homo sapiens (human) sukaryota; Animalia; Metazoa; Chordata; Vertebrata; Theria; Eutheria; Primates; Haplorhini; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 49; DB 134; 1
Pred. No. 9.95e-53;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 1 uM
1 200 uM
5 units/ul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     degrees
degrees
degrees
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Elmer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23
30
                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia;
Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82
```

۲.

the

GDR

CDNA

/ L512,

12

CNRS,

ō,

ecotype

columbia"

06-AUG-1994

0

Gaps

0

(library: Yu whole animal

Sugimoto, A.

Rhabditida;

D12631

```
RESULT 4
LOCUS
DEFINITION
ACCESSION
    ACCESSION
NID
KEYWORDS
                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                           RESULT
LOCUS
                                                                                                                                   Ş
                                                                                                                                                             皮
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFFITTITI
                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EYWORDS
                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                28 atccagaaattttagaaggaaga-ctgaaaaatatgtggatactccatttggcaag
                                                                                                                                                                                                       Local
                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1994) submitted (1-Jul-1994) to DDBJ by: Yuji Kohara National Institute of Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C.elegans cDNA
D37705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Caenorhabditis elegans
Eukaryota; Animalia; Eumetazoa; Nematoda;
Rhabditina; Rhabditoldea; Rhabditidae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST(expressed sequence tag).
Caenorhabditis elegans (strain CB1489 him-8(e1489))
Caenora unpublished cDNA) Hermaphrodite, male varied
                                   ribosomal
230721
     expressed
                                                                                                                                                                                                                                                                                                                                                                                                                         Fax: 0559-75-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                      Phone:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shizuoka 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gene Library Lab
Yata 1111, Mishi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Toward an expression map of the C.elegans genome(5'end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tabara, H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kohara,Y., Mitsuki,H., Nishigaki,A., Motohashi,T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g526087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CELK008E4F
                                                                                                                                                                                        h 2.8%;
Similarity 80.0%;
32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           h 5.8%;
Similarity 98.2%;
55; Conservative
                                                             thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 447)
                                                                                                                                                                                                                                                                 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP;
                                                                                                                                                                                                                                                                                                                                                                                             ykohara@ddbj.nig.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                         0559-75-0771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /map="9"
complement(131..150)
/map="9"
; 95 A; 74 C; 83 G; 103
                                                                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Hon
/note="human"
61..150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /map="9"
61..80
                                                                                                                                                                                                                                                                                       /organism="Caenorhabditis elegans"
/strain="CB1489 him-8(e1489)"
/dev_stage="varied"
/sequenced_mol="CDNA to mRNA"
/sex="Hermaphrodite, male"
/tissue_type="whole animal"
                                                                                                                                                                                                                                                              /clone_lib="Yuji Kohara unpublished cDNA"
114 c 77 g 103 t
                                              na transcribed
protein L7a ;
  sequence tag; partial cDNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mishima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            447
                                                                          321 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             447 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ism="Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA
yk8e4 :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 49; DB 173;
Pred. No. 9.95e-53;
0; Mismatches 0
                                                                                                                                                                                        Score 24; DB 2; L
Pred. No. 8.11e-08;
0; Mismatches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83 G; 101
                                            RNA
sequence; clone
Oryza sativa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             end,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T; 47 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                          œ
;;
                                                                                                                                                                                                                    Length 447;
                                                             EST
TAI332;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Secernentea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           read.
                                                             ω
                                                                           14-MAR-1994
                                                             end; Similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sugimoto, A.
                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (library: Yu
whole animal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۳.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rhabditida;
                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yuji
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;;
.
                                                                                                                                                                                                                                                                                                                                   DEFINITION
ACCESSION
                                                                                                                                JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                               RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                      င့
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
                   FEATURES
                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                             TITLE
                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                         746 CAGCCTCCTTAGCAAGAACCACCTCTGGAACTGTGGTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                        205 cagcctccttagcaataaccctctccttagcttttggtcttg
                                                                                                                                                                                                                                                                                                                                                                              σ
                                                                                                               Unpublished (1994)
Submitted (1-Jul-1994) to DDBJ
National Institute of Genetics
                                                                                                                                                                                                   Caenorhabditis elegans
Eukaryota; Animalia; Eumet
Rhabditina; Rhabditoidea;
1 (bases 1 to 341)
                                                                                                                                                                                                                                                          EST(expressed sequence tag).
Caenorhabditis elegans (strain
Kohara unpublished cDNA) Hermap
cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                    C.elegans
D36187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (13-MAR-1994) to the EMBL/GenBank/DDBJ databases. GDR-1003 ACS, INRA, laboratoire de Biologie Moleculaire, BP 31326 Castanet Tolosan cedex, France.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E-mail:gdr-svp@toulouse.inra.fr. On behalf of: Laboratoire Biologie Moleculaire des Plantes - CNRS, Gigot Claude / L51 Rue du General Zimmer, 67084 Strasbourg Cedex, France. E-mail:philipps@scilla.u-strasbg.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryotae; mitochondrial eukaryotes; Chlorophyta/Embryophyta
group; Charophyta/Embryophyta group; Embryophyta; Magnoliophyta;
Magnoliopsida; Dilleniidae; Capparales; Brassicaceae; Arabidopsis.
                                                                                      Gene Library Lab
Yata 1111, Mishir
                                                                                                                                                                                     Kohara, Y., Mitsuki, H., Nishigaki, A., Motohashi, T.,
                                                                                                                                                                                                                                                                                                                                                                CELKOO2F5F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            similarity detected by blastx against GB Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cloning vector:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 321)
Philipps,G. and Gigot,C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana
                                            Phone: 0559-75-0771 Fax: 0559-75-6240
                                                                       Shizuoka 411
                                                                                                                                                          Toward an expression map of the C.elegans genome(5'end)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Physiological condition: cycling cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The Arabidopsis thaliana transcribed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thale cress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
32; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l automatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 321)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.7%;
larity 78.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                ykohara@ddbj.nig.ac.jp
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    þ
                                                                                                                                                                                                                                                                                                                                             oF 341 bp
cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="ribosomal protein"
/db_xref="PID:g460355"
/translation="ITSTTRYEDDRKKWGGGLMGSKSQAKTKAKERVIAKEAAQRMN"
68 c 51 g 103 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement(188..>321)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /tissue_type="cell suspension
/clone_lib="AC16H"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'clone-"TAI332"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Arabidopsis"
                                                                                      Mishima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lambda ZAPII;
                                                                                                                                                                                                                                                                          gans (strain CB1489 him-8(e1489))
cDNA) Hermaphrodite, male varied
                                                                                                                                                                                                                                                                                                                                                mRNA
yk2f5 :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
Pred.
0; M
                                                                                                                                                                                                                 Eumetazoa; Nematoda;
ldea; Rhabditidae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             re 23; DB 1; L
1. No. 2.15e-06;
Mismatches 9
                                                                                                                                                                                                                                                                                                                                                 ú
                                                                                                                              by:
                                                                                                                                                                                                                                                                                                                                                end,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                thaliana"
                                                                                                                                Yuji Kohara
                                                                                                                                                                                                                                                                                                                                                EST
single:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genome:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     culture
                                                                                                                                                                                                                                                                                                                                                                                                                                                  245
                                                                                                                                                                                                                                                                                                                                                                                                                       706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry
                                                                                                                                                                                                                                  Secernentea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                read.
```

```
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 7
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 2
RESULT
                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                   Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 706 CATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTG 746
                                                                                                  294 caagaccaaagctaaggagggttattgctaaggaggctg 334
                                                                                                                                                   / Match 2.7%;
Local Similarity 78.0%;
nes 32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T22905 435 t
4913 Arabidopsis th
T22905
9504346
EST.
                     œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thale cress clone=108B1077 library=Lambda-PRL2 strain=var columbia vector=lambda Zip-Lox Rsite1=Sal Rsite2=Not Lambda PRL2 is a cDNA library derived from equal quantities of 4 pools of mRNA. The mRNA sources were 1) 7 day germinated etiolated seedlings; 2) tissue culture grown roots; 3) staged plants half with 24 hour light cycle, half on 16 hr light, 8 hour dark rosettes; 4) same plants as 3 but aerial tissue (stems, flowers and siliques. The vector is BRL's lambda Zip-Lox. The cDNA inserts were directionally cloned with Sal-Not arms using oligo dT primed cDNA.

Arabidopsis thaliana
Eucaryotae; Embryophyta; Magnoliophyta; Magnoliopsida; Capparales; Brassicaceae; Arabidopsis.

1 (bases 1 to 435)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
26; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Newman, T., de Bruijn, F.J., Green, P., Keegstra, K., Kende, H., McIntosh, L., Ohlrogge, J., Raikhel, N., Somerville, S., Thomashow, M., Retzel, E. and Somerville, C. Genes galore: a summary of methods for accessing results from large-scale partial sequencing of anonymous Arabidopsis cDNA clones plant Physiol. 106, 1241-1255 (1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Thomas Newman
MSU-DDE Plant Research Laboratory
Midhigan State University
MSU-DDE-PRL, Michigan State University,Plant Biology Bldg.,E.
  CELK062D9R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          111
                                                                                                                                                                                                                                                  114
                                                                                                                                                                                                                                                                                                                                                                                                  517-353-0854
517-353-9168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.7%;
larity 89.7%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Caenorhabditis elegans"
/strain="CB1489 him-8(e1489)"
/dev_stage="varied"
/sequenced_mol="cDNA to mRNA"
/sex="Hermaphrodite, male"
/tissue_type="whole animal"
/cione_lib="Yuji Kohara unpublished cDNA"
1 a 85 c 52 g 89 t 4 others
                                                                                                                                                                                                                                                                                                                                                             22313tcn@ibm.cl.msu.edu.
Location/Qualifiers
                                                                                                                                                                                                                                           /organism="Arabidopsis thallana"
/clone="108B1077"
/strain="var columbia"
/note="thale cress"
1086 c 112 g 115 t
      332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5 bp mRNA EST
thaliana cDNA clone 108B10T7.
    đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 23; DB 2; I
Pred. No. 2.15e-06;
0; Mismatches 3
                                                                                                                                                   Score 23; DB 107; I
Pred. No. 2.15e-06;
0; Mismatches 9;
                                                                                                                                                                                              DB 107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 341;
          EST
                                                                                                                                                                                          Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                      œ
                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-MAR-1995
          09-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                            0
```

```
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NID
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                           TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        β
                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OON C.elegans cDNA clone yk62d9: 3' end, single read.

N D71125
g110834
g110834
sEST(expressed sequence tag).
Caenorhabditis elegans (strain N2, ) (library: Yuji Kohara unpublished cDNA) Hermaphrodite embryo embryo cDNA to mRNA.
Caenorhabditis elegans
Eukaryotae; mitochondrial eukaryotes; Metazoa; Nematoda;
Eukaryotae; mitochondrial eukaryotes; Metazoa; Rhabditoidea;
Secernentea; Rhabditia, Rhabditida; Rhabditidae; Caenorhabditis.
Fabaditidae; Caenorhabditis.
Li (bases 1 to 332)
Secernary A Motohashi, T., Tabara, H., Sugimoto, A., Watanabe, H. &
                                                                                                                                                                                                                                                                        Eukaryotae; mi
Vertebrata; Eu
Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nishigaki.A.
Toward an expression map of the C.elegans genome Unpublished (1995)
Submitted (23-Aug-1995) to DDBJ by:
                                                                                                                                                                                                                                                                                                                                                                     g1287199
EST.
                                                                                                                                                                                                                                                                                                                                                                                                      W13162 981 bp mRNA EST 26-APR-1996 ma74d12.r1 Soares mouse p3NMF19.5 Mus musculus cDNA 5' similar SW:CDM4_MOUSE P30285 CELL DIVISION PROTEIN KINASE 4 ;. W13162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gene Library Lab.
National Institute of Genetics
Yata 1111, Mishima Shizuoka
                                                                                                                                                               1 (bases 1 to 981)
Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T.,
Geisel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M.,
Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B.,
Theising,B., Wylle,T., Lennon,G., Soares,B., Wilson,R. and
Waterston,R.
Contact: Marra M/Mouse EST Project WashU-HHMI Mouse EST Project Washington University School of MedicineP 4444 Forest Parkway, Box 8501, St. Lc Tel: 314 286 1800 Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email:ykohara@ddbj
                                                                                                                                Unpublished (1996)
                                                                                                                                                  The WashU-HHMI Mouse EST Project
                                                                                                                                                                                                                                                                                                                                    Mus musculus
                                                                                                                                                                                                                                                                                                                                                     house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.6%;
Similarity 92.3%;
24; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : 0559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /strain="N2"
/dev_stage="embryo"
/sequenced_mol="cDNA to mRNA"
/sex="Hermaphrodite"
/tissue_type="embryo"
/clone_lib="Yuji Kohara unpublished
46 c 75 g 81 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hara@ddbj.nig.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ∕organism-"Caenorhabditis elegans"
                                                                                                                                                                                                                                                                                                 mitochondrial eukaryotes; Metazoa;
Eutheria; Rodentia; Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 22; D
Pred. No. 5.
0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4; I
5.08e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 332;
                                             Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA"
                                                                                                                                                                                                                                                                                                   , Chordata;
Myomorpha; Muridae;
                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rhabditoidea;
                                                 63108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

mouseest@watson.wustl.edu

```
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                             source
                                                                                                                          Washington University School of MedicineP 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108 Tel: 314 286 1810 Fax: 314 286 1810 Email: mouseest@watson.wustl.edu This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information. Seq primer: ETPrimer High quality sequence stop: 558. NCBI g1: 1287199
                                                                                                                                                                                                                                          Marra M., Hillier L., Allen M., Bowles M., Dietrich N.,
Dubuque T., Geisel S., Kucaba T., Lacy M., Le M., Martin of Morris M., Schellenberg K., Steptoe M., Tan F., Underwood Moore B., Theising B., Wylie T., Lennon G., Soares B., Wil
                                                                                                                                                                                                                                                                                                                        Mus musculus (mouse)
Eukaryota; Animalia;
                                                                                                                                                                                                                                                                                                                                                          30-APR-1996 (Rel. 47, Created)
30-APR-1996 (Rel. 47, Last updated, Version 1)
30-APR-1996 (Rel. 47, Last updated, Version 1)
ma74012.rl Soares mouse p3NMF19.5 Mus muscullus
SW:CDK4_MOUSE p30285 CELL DIVISION PROTEIN KIN
                                                                                                                                                                                                                                                                                                                                                                                            W13162;
30-APR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                               Contact: Marra M/Mouse EST Project WashU-HHMI Mouse
                                                                                                                                                                                                                                  Waterston R.;
                                                                                                                                                                                                                    "The WashU-HHMI Mouse EST Project";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           328 cacagttcgtgaggtggc-cttgttaaggaggctgga
                                                                                                                                                                                                                                                                                                                heria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IMAGE
Seq pi
High c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI gi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This clone is available royalty-free through LINL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           h 2.6%;
Similarity 86.5%;
32; Conservative
                                                                                                                                                                                                                                                                                                                Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer: ETPrimer
                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    quality sequence stop:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               O
location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ocation/Qualifiers
                                                                                                                                                                                                                                                                                                               Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ab_host="DH10B (ampicillin resistant)"
                                                                                                                                                                                                                                                                                                              Metazoa; Chordata;
dentia; Myomorpha; I
                                                                                                                                                                                                                                                                                                                                                                                                                    RNA; EST;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
Pred.
0; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N 22;
                                                                                                                                                                                                                                                                                                                                                           MUS MUSCULUS CDNA
N PROTEIN KINASE 4
                                                                                                                                                                                                                                                                                                                                                                                                                    ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 150;
5.08e-05;
4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    236
                                                                                                                                                                                                                                    Tan F., vuca
                                                                                                                                                                                                                                                                                                               Muridae;
                                                                                                                                                                                                                                                                                                                        Vertebrata; Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                748
                                                                                                                                                                                                                                                                                                                Murinae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11 others
                                                                                                                                                                                                                                                                  Martin J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                            B., Wilson
                                                                                                                                                                                                                                                                                                                                                           5' similar
                                                                                                                                                                                               EST Project
                                                                                                                                                                                                                                                      · 7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                      ដ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                           CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1,
                          꼽
```

Š 밁

```
RESULT RE
ဌ
                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATET
                                                                               Query Match
Best Local S
Matches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ULT 11
HSW04230 standare
W04230;
30-APR-1996 (Rel. 4
                                                                                                                                                                                  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Wilson RK WashU-Merck EST Project Washington University School of Medicine 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108 Tel: 314 286 1800 Fax: 314 286 1810 Email: est@watson.wustl.edu This clone is available royalty-free through LNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information. Seg primer: mob.REGA+ET High quality sequences top: 176. NCBI gi: 1276338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hillier L., Clark N., Dubuque T., Elliston K., Hawkins M., Holman M., Hultman M., Kucaba T., Le M., Lennon G., Marra M., Parsons J., Rifkin L., Rohlfing T., Soares M., Tan F., Trevaskis E., Waterston R., Williamson A., Wohldmann P., Wils
                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota;
Theria; Eu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The WashU-Merck EST Project";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 295322 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  za43e02.rl Soares
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    328 cacagttcgtgaggtggc-cttgttaaggaggctgga
  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  712 CACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGA
                                       19
  GACCCTATCTGAGGTATGGTAGTGAGC
                         gaccatacctgaggtaaggtagtgagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          piens (human)
ta; Animalia; Metazoa; Chordata; Vertebrata;
Eutheria; Primates; Haplorhini; Catarrhini;
                                                                               Similarity
24; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h 2.6%;
Similarity 86.5%;
32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    981
                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                             2.5%;
larity 88.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP;
                                                                                                                                                               BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Soares and M.Fatima Bonaldo."
/clone_lib="Soares mouse p3NMF19.5"
/dev_stage="19 weeks"
/lab_host="npuro"
                                                                                                                                                                                                                                                                                                                                                                                                     8<sup>4</sup>
                                                                                                                                                                                                                    /sex="male"
/dev_stage="20 week-post
                                                                                                                                                                                                                                                                /clone_lib-"Soares
                                                                                                                                                                                                                                                                             /clone="295322"
                                                                                                                                                                                                   /lab_host="DH10B (ampicillin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203
                                                                                                                                                                                                                                                                                                                                                               Pharmacia), digested with Pac I and cloned into ind Eco RI sites of the modified pT7T3 vector. Li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'lab_host="DH10B (ampicillin resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           47, Created)
47, Last updated, Version
fetal liver spleen INFLS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pharmacia). Library went through one round of
                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ?
                                                                                                                                                                  ü
                                                                                                                                                                                                                                                                                                                           one
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST;
                                                                                                                                                               C; 43 G; 44
                                                                           Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
Pred.
0; M
                                                                                                                                                                                                                                                                                                                         round
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                       45
                                                                                                                                                                                                                                                                                                      M.FatimaBonaldo
                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                          of normalization.
                                                                                                  21; DB 168;
No. 1.06e-03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>و</u>
                                                                                                                                                                                                                                                                fetal liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.08e-05
                                                                                                                                                               T; 2 other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멂
                                                                                                                                                                                                                        conception
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T; 11 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۲
                                                                                                                                                                                                   resistant)
                                                                                                                                                                                                                                                              spleen lNFLS
                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                        fetus"
                                                                                                                                                                                                                                                                                                                         Library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia;
Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       constructed
                                                                                                                       202;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence
                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
                                                                                                                                                                                                                                                                                                                         constructed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Pharmacia)
2: Eco RI;
                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             æ
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γd
                                                                                                                                                                                                                                                                                                                                                                                    the Pac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bento
                                                                                                                                                                                                                                                                                                                                                                                                                                             primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               بر
                                                                               0
                                                                                                                                                                                                                                                                                                                         à
```

```
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              din
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                        RESULT
LOCUS
                                                                                                                                                                                                                                                                                                                                                                        မှ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                         ACCESSION
                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
SOURCE
                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 24; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                               gaccatacctgaggtaaggtagtgagc 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g1276338
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      za43e02.r1
295322 5'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens Eukaryotes; Metazoa; Chordata; Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 202)

1 (bases 2 to 202)

1 (bases 2 to 202)

1 (bases 3 to 202)

2 (bases 4 to 202)

2 (bases 5 to 202)

2 (bases 5 to 202)

2 (bases 5 to 202)

2 (bases 6 to 202)

2 (bases 6 to 202)

2 (bases 7 to 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Wilson RK
WashIngton University School of Medicine
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
Email: est@watson.wustl.edu
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
Seg primer: mob.REGA+ET
This clone:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W04230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The WashU-Merck EST Project Unpublished (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI gi:
                                                                                                              T47192 301 bp mRNA
yb53ell.rl Homo sapiens cDNA clone 74924
60S RIBOSOMAL PROTEIN L18 (HUMAN).
T47192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                quality sequence stop: 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
//organism="Homo sapiens"
//organism=|
//orga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.5%;
larity 88.9%;
Conservative
clone=74924 library=Stratagene ovary (#937217)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1276338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /dev_stage="20 week-post conception fetus"
/lab_host="DH10B (ampicillin resistant)"
<1..>202
<1..>33 c 43 g 44 t 2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             202
Soares
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp
fetal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 21; DB 147;
Pred. No. 1.06e-03;
0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA
liver spleen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFLS
                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 202;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                  08-FEB-1995
similar to gb:Lll!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-APR-1996
sapiens cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Marra, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cDNA clone
                                                                                                                                                                                                       gb:L11566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
```

```
155 cggnagatgaagcttcctggggccggtgaaaacaaganggccgttgttgtg 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTCGATTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eucaryotae; Metazoa; Chordata; Vertebrata; Gnathostomata; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 301)

1 Hillier, Clark, N., Dubuque, T., Elliston, K., Hawkins, M., Hillier, Clark, N., Kucaba, T., Le, M., Lennon, G., Marra, Holman, M., Hultman, M., Kucaba, T., Tan, F., Trevaskis, E., Parsons, J., Rifkin, L., Rohlfing, T., Tan, F., Trevaskis, E., Waterston, R., Williamson, A., Wohldmann, P. and Wilson, R. Washu-Merck EST Project
Unpublished (1995)
Other_ESTS: yb53ell.s1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vector=Bluescript SK host=SOLR cells (kanamycin resistant)
primer=Mi3RP1 Rsitel=EcoRI Rsite2=XhoI Cloned unidirectionally.
primer: Oligo dT: Total ovary tissue, normal 49 year old caucasian female. Average insert size: 0.8 kb; Uni-ZAP XR Vector; 5' adaptor sequence: 5'-GAATTCGGCACGAG-3'; 3' adaptor sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Wilson RK
Washington University School of Medicine
Washington Wilson School of Medicine
Fall 286 1800
Email: estewatson.wustl.edu
Email: estewatson.wustl.edu
High qality sequence stops: 294
High qality sequence stops: 294
High qality sequence stops: 294
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           yf88c05.sl Homo
R41555
                                                       Eukaryotae; Metazoa; Eumetazoa; Bilateria; Coelomata; Deuterostomia; Chordata; Vertebrata; Gnathostomata; Osteicl Sarcopterygi; Choanata; Tetrapoda; Amniota; Mammalia; The; Eutheria; Archonta; Primates; Catarrinii; Hominidae; Homo. 1 (bases 1 to 327)
1 (bases 1 to 327)
1 (bases 1, Clark, N., Dubuque, T., Elliston, K., Hawkins, M., Holman, M., Hultman, M., Kucaba, T., Le, M., Lennon, G., Marra, Parsons, J., Rifkin, L., Rohlfing, T., Soares, M., Tan, F., Trevaskis, E., Waterston, R., Williamson, A., Wohldmann, P. and Marra, M., Marra, M., Williamson, A., Wohldmann, P. and M., M., Williamson, A., Wohldmann, P. and M., Williamson, M., Wohldmann, P. and M., Williamson, A., Wohldmann, P. and M., Williamson, M., Williamson, M., Wohldmann, P. and M., Williamson, W., Williamson, M., Williamson, W., Willi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            h 2.5%;
Similarity 68.6%;
35; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -CTCGAGTTTTTTTTTTTTTTTTT-3'.
WashU-Merck EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/clone="74924"
/note="human"
71 c 81 g 7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 21;
Pred. No. 1
0; Mismat
Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA
cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e 21; DB 114; 1
No. 1.06e-03;
Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                        Wohldmann, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Marra, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                      Marra, M.,
                                                                                                                                                                                                                                                                                                                                                                              Osteichthyes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BA
```

```
RESULT 15
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                   JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 2.5%;
Best Local Similarity 80.0%;
Matches 28; Conservative
                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 192 AAATTTTAGAAGGAAGAACTGAAAAATATGTGGAT 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     51 aaatttactaaggaagacctgagcaaaatgtggat 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Wilson RK
WashU-Merck EST Project
Washington University School (
4444 Forest Park Parkway, Box
Tel: 314 286 1810
Fax: 314 286 1810
Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                 3 (bases 1 to 336)
3 (bases 1 to 336)
4 uffray,C., Behar,G., Bois,F., Bouchier,C., da Silva,C.,
Devignes,M.D., Duprat,S., Houlgatte,R., Jumeau,M.N., Lamy,B.,
Lorenzo,F., Mitchell,H., Mariage-Samson,R., Pietu,G., Pouliot,Y.,
Sebastiani-Kabaktchis,C. and Tessier,A.
Sebastiani-Kabaktchis,O. and Tessier,A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genexpress.

Direct Submission

Direct Submission

Submitted (19-JAN-1995) Genethon, B.P. 60, 91002 Evry Cedex France and Genetique Moleculaire et Biologie du developpement, CNRS UPR420 B.P. 8, 94801 Villejuif Cedex France. E-mail:

genexpress@genethon.fr

Chases 1 to 336)

Genexpress.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSCSAD011 336 bp RNA
H. sapiens partial cDNA sequence; clone F12463
                cDNA sequence colinear to mRNA Stretch_removed: nothing Normalization_method: Bento Soares, Genexpress_library_idt: C; Genexpress_sequence_idt: ylc-3ad01.
                                                                                                                                                                                               Cloning_method: total mRNA was oligo-(dT) primed and directionally cloned 5' -> 3' into the HindIII -> NotI sites of the lafmid BA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;
Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; Homo.
(bases 1 to 336)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High quality sequence stops: 127
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (1995)
                                                                                                                                   Sequencing_method: single read, full automatic; Primer: M13_reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    partial cDNA sequence; transcribed sequence fragment
                                                                                                                                                                                                                                          95277534
                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                     The Genexpress cDNA program
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDB: G00-402-083
                                                                                                                                                                                                                                                      its expression
3. Acad. Sci. III, Sci. Vie 318 (2), 263-272 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/clone="29736"
/note="human"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 21; DB 83;
Pred. No. 1.06e-03.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    School of Medicine Pay, Box 8501, St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             +
                                                                              P.N.A.S. 91:9228-9232(1994);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST
c-3ad01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Louis, MO 63108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 327;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
မှ
                                                                                                                                                                                                     ORIGIN
                                                                                                 ₽
Search completed: Tue Job time: 457 secs.
                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                 Query Match 2.5%;
Best Local Similarity 85.7%;
Matches 24; Conservative
                                                                                212 tncggaagatgaagcttcctggccggga 239
                                                                 683 TGCGGAACATGAAGCTTTCTGCCCGGGA
                                                                                                                                                                                                                        82
                                                                                                                                                                                                                        ω
                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/isolate="muscular atrophy patient"
/isolate="muscular atrophy patient"
/clone_lib="normalized infant brain cDNA from B.Soares,
/sychlatry Dept. Columbia University USA"
/sex="female"
                                                                                                                                                                                                                /tissue_type="total brain"
/dev_stage="3 months old"
78 c 103 g 68 t
              Feb 11 00:04:32 1997
                                                                                                                                Score 21; DB 44;
Pred. No. 1.06e-03;
0; Mismatches 4
                                                                   656
                                                                                                                                   4.
                                                                                                                                                                   Length 336;
                                                                                                                                                                                                                       5 others
                                                                                                                                 Indels
                                                                                                                                   0
                                                                                                                                   Gaps
                                                                                                                                   0
```

BEST AVAILABLE COPY

Title: >US-08-674-311-1 Description: (122-970) from US08674311.seq (2 of 2) Perfect Score: 849	Run on: Tue Feb 11 00:04:51 1997; MasPar time 33.82 Seconds 694.358 Million cell updates/sec	MPsrch_nn n.a n.a. database search, using Smith-Waterman algorithm	Release 2.1D John F. Collins, Biocomputing Research Unit. Copyright (c) 1993, 1994, 1995 University of Edinburgh, U.K. Distribution rights by IntelliGenetics, Inc.	

Title.
Descriptlc
Perfect Score.
N.A. Sequence:
Comp: Scoring table: Tabu TABLE default Gap 6 122 ATGGCCTCTGGCACCACCAC......CTGTTTTATTACCAAGACAT 970
TACCGGAGACCGTGGTGGTG......GACAAAATAATGGTTCTGTA

Searched: Nmatch STD: 50278 seqs, 13829960 bases x 2 Dbase 0; Query 0

Post-processing: Minimum Match 0% Listing first 45 summaries

Database: n-issued 1:51 2:52 3:53 4:54 5:55 6:PCT90 7:PCT91 8:PCT92 9:PCT93 10:PCT94 11:PCT95 12:PCT96

Statistics: Mean 8.502; Variance 4.199; scale 2.025

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	H	2	ω	4	ი 5	ი 6	c 7	ი 8		10	11	12	13	14	15			c 16	c 15
Score	240	240	240	31	28	25	25	25	25	24	24	23	23	23	23	22	22	20	20
Query Match	28.3	28.3		3.7		2.9	2.9	2.9	2.9	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.4	2.4
Length	2763	2763	2763	215	215	74	75	81	82	81	82	74	74	75	81	74	81	105	3819
DB	10	ហ	10	σ	S	11	11	1	H	11	1	11	11	1	11	1	11	4	4
ID	PCT-US94-1	US-08-176-	PCT-US94-1	US-08-238-	US-08-238-	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	US-07-865-	115-08-002-
Description	Sequence 1,	Sequence 1,	Sequence 1,	Sequence 5,	Sequence 5,	Sequence 100	Sequence 99	Sequence 98	Sequence 97	Sequence 92	Sequence 97	Sequence 94	Sequence 100	Sequence 99,	Sequence 98	Sequence 94	Sequence 92	Sequence 13,	Sections 3
	Applicatio	Applicatio		Applicatio	Applicatio	 Applicat 	, Applicati		۲	٦.	, Applicati	, Applicati	, Applicati		200 100+10				
Pred. No.	9.33e-177	· 9.33e-177	9.33e-177	2.74e-07	2.37e-05	1.71e-03	1.71e-03	1.71e-03	1.71e-03	6.82e-03	6.82e-03	2.64e-02	2.64e-02	2.64e-02	2.64e-02	9.96e-02	9.96e-02	1.28e+00	1 286+00

a		o	ი			ი	o				ი	o						ი		ი		ი			
45	44	43	42	41	40	39	38	37	36	35 5	34	u u	32	31	30	29	28	27	26	25	24	23	22	21	2
18	18	18	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	20	20	
2.1																2.2				٠	•				
	4365									2101						864								4032	
12	7	H	11	H	9	ഗ	Ξ	11	11	H	4	4	11	1	11	11	11	1	11	H	H	H	œ	G	L
PCT-US96-0	-US91-	PCT-US95-1		PCT-US95-0	PCT-US93-0	US-08-308-	PCT-US95-0	PCT-US95-0	PCT-US95-0	PCT-US95-0	US-07-915-	US-08-142-	PCT-US95-0	PCT-US95-0	PCT-US95-1	PCT-US95-0	PCT-US95-0	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US92-0	US-08-107-	03-07-000-
Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence		Sequence		Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Seducince
7,	۳.	90	170	156		μ,	169	154	41	41,	Ļ	4,	44,	44,	90,	39	39,	93,	93,	95,	95,	87,	Ψ	ω	,
Applicatio		ъ.	, App.		Applicati	Applicatio), Applicat	•		Applicati	Applicatio	Applicatio	Applicati	$\mathbf{-}$	Applicati	Applicati	۳		Appl	Applicati	Applicati	Applicati	Applicatio	Applicatio	שהעדרמנדה
1.43e+01					4.37e+00	4.37e+00			4.37e+00		4.37e+00	4.37e+00	4.37e+00	4.37e+00	4.37e+00	4.37e+00		4.37e+00	4.37e+00	4.37e+00	4.37e+00	4.37e+00	1.28e+00	1.28e+00	T. ZOETOO

ALIGNMENTS

888888888	38888888	8888888888888888	RESULT
INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 2763 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: DNA (genomic) IMMEDIATE SOURCE:	CLASSIFICATION: ATTORNEY/AGENT INFORMATION: NAME: BETILDET, ROBERT REGISTRATION NUMBER: 20,121 REFERENCE/DOCKET NUMBER: 555-286 TELECOMMUNICATION INFORMATION: TELEPRONE: 213-977-1001 TELEPRONE: 213-977-1003 TELEPRONE: 213-977-1003	Da CD B da S	ULT 1 PCT-US94-14919-1 STANDARD; DNA; UNC; 2763 BP. XXXXXX 01-JAN-1900 Sequence 1, Application PC/TUS9414919. Séquence 1, Application PC/TUS9414919 GENERAL INFORMATION: APPLICANT: THE RESENTS OF THE UNIVERSITY APPLICANT: OF CALIFORNIA TITLE OF INVENTION: METHOD FOR SELECTIVE METHONINE TITLE OF INVENTION: STARVATION OF MALIGNANT CELLS IN MAMMALS NUMBER OF SECULEMENTS. S

```
នននន
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLONE: methyladenosine phosphatase
FEATURE:
NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1022 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Sequence 1,
                                                                                                                                                                                                                                                                                                                                                                                                01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-176-413-1 STANDARD; DNA; UNC; 2763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1202 CAGT 1205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (619) 455-5110
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                      APPLICATION NUMBER: US/08/176
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Howells, Stacy L.
REGISTRATION UNMBER: 34,842
REFERENCE/DOCKET NUMBER: PD28
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 455-5100
                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CONTRACT
                                                                                                                                                                                                                                                                                                              APPLICANT: No. 5571510or1, Tsutomu APPLICANT: Carson, Dennis A. TITLE OF INVENTION: METHOD FOR SELITIFLE OF INVENTION: STARVATION OF 1
                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS
ADDRESSEE: Spensley
                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Spensley Horn Jubas & Lubitz
STREET: 1880 Century Park East, Suite 500
CITY: Los Angeles
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGT 813
                                                                                                                                                                                                                                COUNTRY: U
ZIP: 90067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28.3%;
Similarity 99.2%;
                                                                                                                                                                                                                                                                                                                                                                , Application US/08176413.
Application US/08176413.
5571510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      methyladenosine phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                          USA
   linear
                                                                                                                                                                                                                                                                                                                METHOD FOR SELECTIVE METHIONINE STARVATION OF MALIGNANT CELLS IN MAMMALS
                                                                                                                                                          US/08/176,413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 240; DB 10; 1 Pred. No. 9.33e-177; 0; Mismatches 2;
                                                                                               PD2864
                                                                                                                                                                                                                                                                                                                                                                                                                        ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
```

```
និនិនិនិនិន
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Ma
Best Loc
Matches
     COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARRE: PAtentin Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/14920
FILLING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 20/121
REGISTRATION NUMBER: 20/121
REFERENCE/DOCKET NUMBER: 5555-287
TELECOMMUNICATION INFORMATION:
TELEPHONE: 213-977-1003
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1022 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1082 GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA 1141
                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application PC/TUS9414920.
Sequence 1, Application PC/TUS9414920
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: THE REGENTS OF THE UNIVERSITY
APPLICANT: OF CALLFORNIA
TITLE OF INVENTION: METHOD FOR DETECTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1202 CAGT 1205
                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT-US94-14920-1 STANDARD; DNA; UNC; 2763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     630 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             810 CAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: methyladenosine phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tocal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTGTTACGCAAGTATCGCCATGGGCACAGATTATGACTGCTGGAAGGAGGAGCACGAGGAAG 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: CDS
                                                                                                                                                                                                                                                     ADDRESSEE: Robbins, Berl
STREET: 201 N. Figueroa
CITY: Los Angeles
STATE: California
                                                                                                                                                                                                                                ZIP: 90012
                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ch 28.3%;
l Similarity 99.2%;
242; Conservative
                                                                                                                                                                                                                                            USA
  2763 base pairs
                                                                                                                                                                                                                                                                                 Robbins, Berliner & Carson
)1 N. Figueroa Street, 5th Floor
                                                                                                                                                                                                                                                                                                                    CELLS
                                                                                                                                                                                                                                                                                                                                                     METHOD FOR DETECTION OF METHYLTHIOADENOSINE PHOSPHATASE DEFICIENCY IN
                                                                                                                                                                      Release #1.0, Version
                                                                                                                                               PCT/US94/14920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 240;
Pred. No. 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                            555-287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 2763;
                                                                                                                                                                          #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                          . 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               749
                                                                                                                                                                                                                                                                                                                                                            MAMM
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 28.3%;
Best Local Similarity 99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                    DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1022
                                                                                                                                                                                                                                                                                                                                                               Sequence 5, Application Sequence 5, Application Patent No. 5569830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1202 CAGT 1205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1142
CURRENT APPLICATION DATA:

CURRENT APPLICATION NUMBER: US/08/238,163

FILING DATE: 03-MAY-1994

CLASSIFICATION: 800

ATTORNEY/AGENT INFORMATION:

NAME: BASTIAN, KEVIN L.

REGISTRATION NUMBER: 34,774

REFERENCE/DOCKET NUMBER: 2307E-540

TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                  XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-238-163-5 STANDARD; DNA; UNC; 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1082 GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA 1141
                                                                                                                                                                                                                                                                           GENERAL INFORMATION:

APPLICANT: BENNETT, Alan
APPLICANT: LABAVITCH, John M.

APPLICANT: POMELL, Ann
APPLICANT: STOTZ, Henrik
TITLE OF INVENTION: PLANT INHIBITORS OF FUNGAL
TITLE OF INVENTION: POLYGALACTURONASES AND THEIR USE TO CONTROL FUNGAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   690
                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: line MOLECULE TYPE: DIMMEDIATE SOURCE:
                                                                                                                                                                                          STREET: Steuart Street Tower, One Market Plaza CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTGTTACGCAAGTATCGCCATGGGCACAGATTATGACTGCTGGAAGGAGCACGAGGAAG 120:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG 108:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGT 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242;
                                                                                                                                                                       94105-1493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nucleic acid
                                                                                                                                                                                                                                                                                                                                                                            Application US/08238163
Application US/08238163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  methyladenosine phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                        24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 240; DB 10; Lc.
Pred. No. 9.33e-177;
               307E-540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       749
```

```
밁
 8888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                           DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                 01-JAN-1900
01-JAN-1900
Sequence 5, Application US/08238163.
Sequence 5, Application US/08238163
Patent No. 5569830
Patent No. 5569830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature
LOCATION: 1..215
OTHER INFORMATION: /standard_name= "Deduced amino acid
OTHER INFORMATION: sequence of PGIP from bean."
Sequence 215 BP; 15 A; 8 C; 25 G; 26 T; 141 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-238-163-5 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   XXXXX
                                                                                                                                       ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATCHIN Release #1.0, V.
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (415) 543-504
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                     APPLICANT: BENNETT, Alan APPLICANT: LABAVITCH, John APPLICANT: POWELL, Ann APPLICANT: STOTZ, Henrik TITLE OF INVENTION: PLANT TITLE OF INVENTION: POLYGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               778 AGATTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         125 TAMTSRNRTGKTANNAVDSRNMGDASVGSDKNTKKHAKNSADGKVGSK 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66 YNYGGNNVGAAKTHYYTHTNVSGADSKTVTDSYNASGT-SSSNGGTDGNRSGADSYGSSK 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6 MSSSSVVSRTASCNDKAKKDGNTTSSWTTDCCNRTWGVCDTDTTYRVNNDSGHNKYSSAN
          REFERENCE/DOCKET NUMBER: 23
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-500
TELEFAX: (415) 543-5043
                                                                                    APPLICATION NUMBER: US/01
FILING DATE: 03-MAY-1994
CLASSIFICATION: 800
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein
        TELEPHONE: (415)
                                                                                                                                                                                                                                               STREET: Steuart Str
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
                                                            NAME: Bastian, Kevin L. REGISTRATION NUMBER: 34,774
                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      h 3.7%;
Similarity 11.9%;
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      215 base pairs
                                                                                                                                                                                                                                                                       E: Townsend and Townsend Khourie and C Steuart Street Tower, One Market Plaza
                                                                                                                                                                                                                                                                                                                                                            POWELL, Ann
STOTZ, Henrik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (415) 543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               543-5043
                                                                                                                                                                                                                                                                                                                                     PLANT INHIBITORS OF FUNGAL POLYGALACTURONASES AND THEIR USE TO CONTROL FUNGAL
                                                                                                                           US/08/238,163
                                                                                                                                                                                                                                                                                                                                                                                          John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 31; DB 5;
Pred. No. 2.74e-07
72; Mismatches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UNC;
                                                                                                                                                                                                                                                                                                                                                                                          z
                                                   2307E-540
                                                                                                                                                     Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                        #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                     Crev
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۲.
```

```
និនិនិនិនិនិនិនិនិនិនិនិ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: misc_feature
LOCATION: 1..215
OTHER INFORMATION: /standard_name= "Deduced amino acid
OTHER INFORMATION: sequence of PGIP from bean."
Sequence 215 BP; 15 A; 8 C; 25 G; 26 T; 141 other;
                                                     TELEFAX: (212) 869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 74 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 100, Application PC/TUS9511934. Sequence 100, Application PC/TUS9511934 GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US95-11934-100 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                108 GGTDGNRSGADSYGSSKTAMTSRNRTGKTANNAVDSRNMGDASVGSDKNTKKHAKNSADG 167
                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION DATA:
APPLICATION UMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            189 GGATCATCCAGGCCTGTTCCACCAATTATTCCAATCTTCACGGCGGTGGTGGTGGTGCCA 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    168 KVGS 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.3%;
Local Similarity 16.9%;
nes 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 215 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                         TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
  TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
Juence 74 BP; 6 A; 6 C; 1 G; 1
                                                                                                                                                                     ATTORNEY/AGENT INFORMATION: NAME: Misrock, S. Leslie
                                                                                                                                                                                                                                                                                                                        STREET: 1155 Avenue of the Americas CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYRVNNDSGHNKYSSANYNYGGNNVGAAKTHYYTHTNVSGADSKTV-TDSYNASGTSSSN 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                     STRANDEDNESS: SII
                                               LENGTH: 74 base pairs
TYPE: nucleic acid
                                                                                                                                             NAME: Misrock, S. Leslie REGISTRATION NUMBER: 18, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                126
                                                                                                                                                                                                                                                                                                        10036
                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                   single
                                                                                                                                                                      S. Leslie
                                                                                                                                                                                                                                         Release #1.0, Version
                                                                                                                                                      18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 28; DB 5; Length 215; Pred. No. 2.37e-05; 49; Mismatches 53; Indels
                                                                                                                                                1101-196-228
    H
''
    60 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВP
                                                                                                                                                                                                                                              #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŗ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
```

```
ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 င္မ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                          င္မ
                   В
                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 6; Conser
                                                                                        Query Match 2.9%;
Best Local Similarity 12.5%;
Matches 9; Conservative
                                                                                                                                                                                TELEFAX: (212) 869-9741/
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 9
SEQUENCE CHARACTERISTICS:
LENGTH: 75 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 99, Application PC/TUS9511934
Sequence 99, Application PC/TUS9511934
GENERAL INTERPORTATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PCT-US95-11934-99 STANDARD; DNA; UNC; 75
                                                                                                                                     MOLECULE TYPE: DNA (genomic)
Sequence 75 BP; 1 A; 1 C; 7 G; 5 T; 61 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               409 GCCACAA 403
                                          211 AGTICTICCITCIAAAATTICTGGATCATCCAGGCCTGTTCCACCAATTATTCCAATCTT 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66 ACCACAA 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64 NNBGGTTGTGGT 75
                                                                                                                                                                                                                                                 NAME: Misrock, 5. Lesile
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 11(
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9990
TELEPHONE: (212) 790-9990
                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIAN PLASSE #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
CLASSIFICATION:
                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT
NAME: Misro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 1155 AV
CITY: New York
STATE: New Yor)
                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 10036
CACGCCGGTGGT 140
                                                                                                                                                              STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.9%;
ilarity 9.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       New York
                                                                                                                                                                                                                                             (212) 790-9090
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pennie & Edmonds
55 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                  INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
Pred.
20; M
                                                                                         Score 25; DB 11;
pred. No. 1.71e-03;
19; Mismatches 44
                                                                                                                                                                                                                         99:
                                                                                                                                                                                                                                                                                 1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25; DB 11;
No. 1.71e-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВÞ
                                                                                            44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 74
                                                                                                                 Length 75;
                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                             0
```

RESULT 8 ID PCT-US95-11934-98 STANDARD;

DNA; UNC;

81

ВP

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 98, Application PC/TUS9511934.
Sequence 98, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
CORRESPONDENCE ADDRESS:
                                                                                                       Sequence 97, Application PC/TUS9511934.
Sequence 97, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                    01-JAN-1900
                                                                                                                                                                                                                                 XXXXXX
                                                                                                                                                                                                                                              PCT-US95-11934-97 STANDARD; DNA; UNC; 82 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: DNA (genomic)
Sequence 81 BP; 6 A; 6 C; 4 G; 5 T; 60 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION NUMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                               409
                                                                                                                                                                                                                                                                                                                                                                       73 ACCACAA 79
                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 9.0%; es 6; Conservative
                                                                            NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,8
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: LL. KITKETY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
                 STATE: N
COUNTRY:
                                                                                                                                                                                                                                                                                                             GCCACAA 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 81 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                              CITY: New York
STATE: New York
                                                             STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
   10036
                                                          1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1155 Avenue of the Americas
                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pennie & Edmonds
                                                                             Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         UMBER: PCT/US95/11934
20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                9.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                Score 25; DB 11; Le
Pred. No. 1.71e-03;
20; Mismatches 41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
 မှ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 2.9%;
Best Local Similarity 12.5%;
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                  Sequence 92, Application PC/TUS9511934.
Sequence 92, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding
TITLE OF INVENTION: Peptide Librari
NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                            XXXXXX
01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT-US95-11934-92 STANDARD; DNA; UNC; 81 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 97:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         151 CACGGCGGTGGT 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   211 AGTTCTTCCTTCTAAAATTTCTGGATCATCCAGGCCTGTTCCACCAATTATTCCAATCTT 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       71 NNBGGTTGTGGT 82
                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Lesile
NAME: Misrock, S. Lesile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: DNA (genomic) quence 82 BP; 1 A; 2 C; 10 G; 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: PC:
FILING DATE: 20-SEP-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDLUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
              REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 111
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 11:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Misrock, S. Leslie REGISTRATION NUMBER: 18,
                                                                                                                                                                                                                                                           COUNTRY: USA
                                                                                                                                                                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 82 base pairs
                                                                                                                                                                                                                                              10036
                                                                                                                                                                                                                                                                                            New York
                                                                                                                                                                                                                                                                            New York
                                                                                                                                                                                                                                                                                                          E: Pennie & Edmonds
1155 Avenue of the Americas
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                    Antigen Binding Peptides (Abtides) From Peptide Libraries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT/US95/11934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 25; DB 11;
Pred. No. 1.71e-03;
19; Mismatches 44
                                              1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

70

0;

ဌ 밁 ဌ 밁

TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS

92:

```
និនិនិនិនិនិនិនិ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
           뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches
                             Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: DNA (genomic)
Sequence 81 BP; 3 A; 5 C; 6 G; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 97, Application PC/TUS9511934. Sequence 97, Application PC/TUS9511934 GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, V(
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
CLASSIFICATION:
NAME: M'8TORMATION:
NAME: M'8TORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US95-11934-97 STANDARD; DNA; UNC; 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              412
                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     472 CACTATG 478
                                                                                                             TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 82 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67 BNNBNNB 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
les 5; Consei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7
                                       Local Similarity
                                                                                                                                                                            NAME: Misrock, S. Leslie REGISTRATION NUMBER: 18,872 REFERENCE/DOCKET NUMBER: 110 TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
                                                                      MOLECULE TYPE: DNA (genomic) quence 82 BP; 1 A; 2 C; 10 G;
                                                                                                                                                                                                                                                                                                                                                STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGAGGGAGGAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGAC 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acta
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                       STREET:
ADDRESSEE:
                                                                                           STRANDEDNESS:
TOPOLOGY: 111
                                                                                                                                                                  TELEFAX:
                                                                                                                                                                                                                                                                                                                                                   New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                Conservative
                                                                                                                                                                                                                                                                                                                                                                       E: Pennie & Edmonds
1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                      Cytogen Corporation
//ENTION: Antigen Binding Peptides
//ENTION: Reptide Libraries
//OUENCES: 103
                                                                                                                                                                                                                                                                                                                                          USA
                                                                                           linear
                                                                                                                                                                                                                                               UMBER: PCT/US95/11934
20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2.8%;
                                         2.8%;
                                                                                                     single
                                                                                                                                                                  869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 24; DB 11;
Pred. No. 6.82e-03;
20; Mismatches 42
                                                                                                                                                97 :
                              Score 24; DB 11; Le
Pred. No. 6.82e-03;
20; Mismatches 42;
                                                                      G; 8 T; 61 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 T;
                                                                                                                                                                                                  1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63 other;
                                                                                                                                                                                                                                                                                Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 81;
                                                    Length 82;
                                                                                                                                                                                                                                                                                                                                                                                                                            (Abtides)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                  0
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                         δÃ
                                                                                                                                                     Š
                                                                                                                                                                                   뭥
                                                                                                                                                                                                                                     밁
                                                                                                              RESULT
                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 94, Application PC/TUS9511934.
Sequence 94, Application PC/TUS9511934
Sequence 94, Application PC/TUS9511934
SEQUENCE INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US95-11934-94 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: DNA (genomic)
Sequence 74 BP; 3 A; 4 C; 3 G; 1 T; 63 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, '
CURRENT APPLICATION DATA:
APPLICATION UNMBER: PCT/US95/1193,
FILING DATE: 20-SEP-1995
CLASSIFICATION: 1MFORMATION:
ATTORNEY/ACENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 1101-196
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        412
01-JAN-1900
O1-JAN-1900
Sequence 100, Application PC/TUS9511934.
Sequence 100, Application PC/TUS9511934
SEQUENCE 100, Application PC/TUS9511934
REPELICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
                                                                                   XXXXX
                                                                                                 PCT-US95-11934-100 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (212) 869-974
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 74 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67
                                                                                                                                                                                                          415 GAGGGAGGAGATICAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCAC 474
                                                                                                                                                        475 TATG 478
                                                                                                                                                                                   63 BNNB 66
                                                                                                                                                                                                                                                                   Local Similarity 4.7%;
nes 3; Conservative
                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BNNBNNB 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTGAGGGAGGAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGAC 471
                                                                                                                                                                                                                                                                                                                                                                            TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ET: 1155 Avenue of the Americas
: New York
E: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (212) 790-9090
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MBER: PCT/US95/11934
20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Release #1.0,
                                                                                                                                                                                                                                                                   Score 23; DB 11; Lopred. No. 2.64e-02; 20; Mismatches 41;
                                                                                                                                                                                                                                                                                                                                                                                                                          94:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Version
                                                                                                   74
                                                                                                                                                                                                                                                                                               Length 74;
                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                        Gaps
```

0,

Indels

0

Gaps

0

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                 Sequence 99, Application PC/TUS9511934.
Sequence 99, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Pepi
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                                                                                                                                                                                                    XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: DNA (genomic)
Sequence 74 BP; 6 A; 6 C; 1 G; 1 T; 60 other;
                                                                                                                                                                                                                                                                                                                                 PCT-US95-11934-99 STANDARD; DNA; UNC; 75
                                                                                                                                                                                                                                                                                                                                                                                           639 AGGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   579 TAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGGACAATGGTCACAATCG 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 100:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                      62 NVNNACC 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        / Match 2.7%;
Local Similarity 10.4%;
les 7; Conservative
             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION: NAME: Misrock, S. Leslie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Peptide Libraries NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1155 A
CITY: New York
                                                                                                                            CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 10036
                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
APPLICATION NUMBER:
                                                                                                              COUNTRY:
                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER:
                                                                                                    10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H: 74 base pairs
nucleic acid
DEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New York
                                                                                                                                                                                                                                                                                                                                                                                          645
                                                                                                                                                        E: Pennie & Edmonds
1155 Avenue of the Americas
                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Leslie
PCT/US95/11934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 23;
Pred. No.
18; Misma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1101-196-228
                                                                                                                                                                                                                              Binding Peptides (Abtides) From
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 11;
2.64e-02;
                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
ID PO
AC X:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3888888888888888888888
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 98, Application PC/TUS9511934
Sequence 98, Application PC/TUS9511934
GENERAL IMFORMATION:
APPLICANT: Cytogen Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US95-11934-98 STANDARD; DNA; UNC; 81 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 75 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                   TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         475 TATG 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 415 GAGGGAGGAGTTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCAC 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
les 3: Communication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63 BNNB
                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding P.
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
quence 75 BP; 1 A; 1 C; 7 G; 5 T; 61 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS
                                                                                                                         REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                  CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
                                                                                                                                                                                                                                       COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
        LENGTH: 81 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Pennie a Lumura.
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (212) 359-9741/8864
                                                                                                           TELEPHONE:
                                                                                                                                                        NAME: Misrock, S. Leslie REGISTRATION NUMBER: 18,
                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE: 20-SE
                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (212) 869-
                                                                                                 TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66
                                                                                                                                                                                                                                                                                                                                 10036
                                                                                                                                                                                                                                                                                                                                                             New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                 (212)
                                                                                                                                                                                                                                                                                                                                             USA
                                                                                              (212) 790-9090
212) 869-9741/8864
                                                                                                                                                                                                               20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antigen Binding Peptides (Abtides) From
                                                                                                                                                                                                                             PCT/US95/11934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18,872
                                                                                                                                                       18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 23; DB 11;
Pred. No. 2.64e-02;
20; Mismatches 41
                                                                                                                                         1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1101-196-228
                                                                                                                                                                                                                                                           Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 75;
```

ş

Ş

```
SQ SEQUENCE BYE ANA (SEGNOMIC)

QUERY MECCH

ST. CORRECTATIVE 7.5%; PEOR 32, DB 11; Longth 81;

BORT LOCAL SIMILATIVY 7.5%; PEOR 30, 2646-02; Indels 0; Gaps 0;

DB 7 TCTAGAVNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANNANIAVANN
```

4.01e-39
4.01e-39
4.01e-39
4.01e-39
4.01e-39
4.01e-39
3.23e-36
3.23e-36
3.23e-36
3.23e-36
3.23e-36
3.23e-36
3.23e-36
3.23e-36
1.99e-27
1.19e-27
1.28e-08

```
Description:
Perfect Score:
N.A. Sequence:
Comp:
                                                                                                                                                                               Result
                                                                                                                                                                                                                                                                                                                             Statistics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nmatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tabular output
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MPsrch_nn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       on:
                                                                                                                                                                                                                                                        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Release 2.1D John F. Collins, Biocomputing Copyright (c) 1993, 1994, 1995 University Distribution rights by IntelliGeneral
 240
240
240
240
240
240
270
270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                             Query
Match
 100.0
100.0
28.3
28.3
28.3
28.3
28.3
11.7
8.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   not generated
                                                                                                                                                                                                                                                                                                                                                        n-pending
1:PCT91 2:PCT92 3:PCT93 4:PCT94 5:PCT95 6:PCT96 7:U75
8:U76 9:U771 10:U772 11:U781 12:U782 13:U791 14:U792
15:U800 16:U801 17:U802 18:U803 19:U804 20:U805 21:U806
22:U807 23:U808 24:U809 25:U810 26:U811 27:U812 28:U813
29:U814 30:U815 31:U816 32:U813 33:U818 34:U819 35:U821
36:U821 37:U822 38:U823 39:U824 40:U825 41:U826 42:U827
43:U828 44:U829 45:U830 46:U831 47:U832 48:U833 49:U834
50:U835 51:U836 52:U837 53:U838 54:U839 55:U840 56:U841
57:U842 58:U843 59:U844 60:U845 61:U846 62:U847 63:U848
64:U849 65:U85 66:U86 67:U87 68:U60 69:NEWP 70:NEWU6
71:NEWU7 72:NEWU8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   >US-08-674-311-1
(122-970) from US08674311.seq
849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TABLE
Gap 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tue
                                                                                                                                                                                                                                                                                                                           Mean 9.696; Variance 3.723;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         656168 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dbase 0; Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122 ATGGCCTCTGGCACCACC......
TACCGGAGACCGTGGTGGTG.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   n.a. database search, using Smith-Waterman algorithm
                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Feb 11 00:05:49 1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        default
2269
2269
2763
2763
2763
2763
2763
2763
578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Match
first
 663335566
6677792986
                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181066524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40
US-08-674-
US-08-040-
US-08-176-
US-08-143-
US-08-227-
US-08-220-
US-08-624-
                                                                                                                                                                             IJ
                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   by IntelliGenetics,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bases
               Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MasPar time 337.15 Seconds 911.915 Million cell updat
Sequence
                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .....CTGTTTTATTACCAAGACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ×
                                                                                                                                                                                                                                                                                                                           scale 2.604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of
             e 1, Applicatio
e 1, Applicatio
e 14, Applicatio
e 14, Applicatio
e 14, Applicati
e 14, Applicati
e 14, Applicati
e 14, Applicati
e 15097, Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Research Unit of Edinburgh,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   U.K.
2.29e-222
2.29e-222
2.29e-222
2.29e-222
2.29e-222
2.29e-222
4.96e-150
3.37e-72
5.66e-47
                                                                                                                              0.00e+00
0.00e+00
                                                                                                                                                                               Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (MI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
ID U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                000000
Sequence 1, Application US/08674311. Sequence 1, Application US/08674311 GENERAL INFORMATION:
APPLICANT: Olopade, Olufunmilayo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-674-311-1 STANDARD;
          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC CDOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/674,311
FILING DATE: CONCURTENTLY Herewith
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/000,831
FILING DATE: 02-JUL-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                      APPLICANT: Olopade, Olu
TITLE OF INVENTION: COM
TITLE OF INVENTION: THE
TITLE OF INVENTION: PRO
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, Wh
STREET: P.O. Box 4433
CITY: Houston
STATE: Texas
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                           COUNTRY: United States ZIP: 77210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          44487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U44444444440000V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .d, White
: 4433
                                                                                                                                                                                                                                                                                                                                                      METHYLTHIOADENOSINE PHOSPHORYLASE
COMPOSITIONS AND METHODS OF USE IN
THE DIAGNOSIS AND TREARMENT OF
PROLIFERATIVE DISORDERS
                                                                                                                                                                                                                                                                                                                                                                                                                        Olufunmilayo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA; UNC; 2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-07-904-
US-07-904-
US-08-388-
US-08-292-
US-08-515-
US-08-471-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-446-

US-08-446-

US-08-446-

US-08-446-

US-08-446-

US-08-446-

US-08-451-

US-08-617-

US-08-7-

US-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALIGNMENTS
                                                                                                                                                                                                                                            얁
                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                            America
                                                                                                                                                                                                                                                                                                          Durkee
                                                                                                                                             Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence
                                                                                                                                               #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8, Applicatio
6, Applicatio
22, Applicatio
133, Applicat
5, Applicatio
142, Applicat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22, Application 58, Applicatio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   68,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   68, Applicati
322, Applicat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \omega \omega \omega \omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Applicati
Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application, Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Applicati
Applicati
Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               licatio
licatio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  icatio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   icatio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   icati
```

10

```
Ş
                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (512) 418-3000
TELEPHONE: (512) 474-7577
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2269 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
FEATURE:
NAME_KEY: CDS
LOCATION: 122..970
Sequence 2269 BP; 725 A; 407 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          122 ATGGCCTCTGGCACCACCACCACCGCCGTGAAGATTGGAATAATTGGTGGAACAGGCCTG 181
                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                        362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182 GATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAG
                                                                                                                                                                                                                                                                                            542
                                                                                                                                                                                                                                                                                                                      482
                                                                                                                                                                                                                                                                                                                                               482
                                                                                                                                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                              662
                                                                                                                                                                                      662
                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                         602
                                                                                                                                                                                                                                                                  542
   842
                                                                                                         722
                                                                                                                                  722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Kitchell, Barbara S.
REGISTION NUMBER: 33,928
REFERENCE, DOCKET NUMBER: ARK
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                          TIGAAGGAAGAGGGCTGTACACAIGTCATAGTGACCACAGCTIGIGGCTCCITGAGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATGGAAGGCAGCACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCATCTGATGCCTTAATTTTGGGGAAGATAAAAAATGTTGATTGCATCCTCCTTGCAAGG
                                                                                                      GAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGAT
                                                                                                                                                                                                              GCTGAGCCGTTTTGCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGGA
                                                                                                                                                                                                                                                                                                                      CCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGTGCCATATTCCAATG
                                                                                                                                                                                                                                                                                                                                     CCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGTGCCATATTCCAATG
                                                                                                                                                                                                                                                                                                                                                                          GAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAGA 481
                                                                                                                                                                                                                                                                                                                                                                                        GAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAGA 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCATCTGATGCCTTAATTTTGGGGAAGATAAAAATGTTGATTGCATCCTCCTTGCAAGG
                                                   GCAGAAAGCTTCATCTTCCGCACCTGGGGGGGGGGGATGTTATCAACATGACCACAGTTCCA
 AAAGAAAACGCTAATAAAGCCAAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTCC
                AAAGAAAACGCTAATAAAGCCAAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTCC
                                                                                                                                                              GCAGAAAGCTTCATGTTCCGCACCTGGGGGGGCGGATGTTATCAACATGACCACAGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h 100.0%;
Similarity 100.0%;
849; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 849; DB 66;
Pred. No. 0.00e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; 490 G; 647 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ARSB:509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                     781
                                                                                                                                                                 721
                                                                                                                                                                                         721
                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                    541
                               901
                                                         841
                                                                                  841
                                                                                                            781
      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

Ωy 밁 δ g δõ 밁 δõ 밁 Š 밁 Š ₽

g Ş 밁 Q 밁 δÃ В

Ωy 밁 δÃ

Š 밁

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
    Ş
                             밁
                                                   Query Match
Best Local S
Matches 84
                                                                                                  LENGTH: 2269 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: other nuclei
DESCRIPTION: /desc = "DNA
FEATURE: CDS
NAME/KEY: CDS
NAME/KEY: CDS
LOCATION: 122.970
Sequence 2269 BP; 725 A; 407 C;
                                                                                                                                                                                                           COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: ELOPPY disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: Datentin Release #1.0, Version #1.
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/60/000,831
FILING DATE: CONCURRENTION:
APPLICATION:
APPLICATION:
APPLICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Kitchell, Barbara S.
REGISTRATION NUMBER: 33 928
REFERENCE/DOCKET NUMBER: 37 928
REFERENCE/DOCKET NUMBER: ARCD:156/KIT
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 474-7577
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2269 base pairs
TYPE: DUCIDER STATEMENT PAPE: DEGLE ASIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1, Application US/60000831
Sequence 1, Application US/60000831
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T 2
US-60-000-831-1 STANDARD; DNA; UNC; 2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    902
122 ATGGCCTCTGGCACCACCACCACCGCGTGAAGATTGGAATAATTGGTGGAACAGGCCTG 181
                     122 ATGGCCTCTGGCACCACCACCGCCGTGAAGATTGGAATAATTGGTGGAACAGGCCTG 181
                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDITE P.U.
STREET: P.U.
CITY: Houston
STATE: Texas
COUNTRY: Unite
TD: 72210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: POMYKALA, Helen M.
APPLICANT: Adeyanju, M.O.
TITLE OF INVENTION: METHODS AND COMPOSITIONS
TITLE OF INVENTION: METHODS AND COMPOSITIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAAGACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAAGACAT 970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAGAATGGTCAGAAACCCTCCATAACCTGAAGAATATGGCCCAGTTTTCTGTTTTATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACAGAATGGTCAGAAACCCTCCATAACCTGAAGAATATGGCCCAGTTTTCTGTTTTATTA 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                   ch 100.0%;
l similarity 100.0%;
849; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Arnold, Wh
P.O. Box 4433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bohlander, Stefan K.
Dreyling, Martin H.
Le Beau, Michelle M.
Stadler, Walter M.
Gursky, Susan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sveen, Lise W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Espinosa, III, Rafael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Olopade, Olufunmilayo
                                                                                                                                                      /desc = "DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fitsum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    White & Durkee
                                                   Score 849; DB 68; 1
Pred. No. 0.00e+00;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of America
                                                                                                      C; 490 G; 647 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BP.
                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                               #
                                                                                                       other;
                                                                              Length
                                                        Indels
                                                         0
                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                         0
```

```
RESULT
ID US
AC US
AC US
AC US
CC SC
CC CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                  용
                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                 នួនន
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                               Sequence 14, Application US/08445648.
Sequence 14, Application US/08445648
GENERAL INFORMATION:
APPLICANT: CARSON, DENNIS A.
APPLICANT: NOBORI, TSUTOMU
TITLE OF INVENTION: TUMOR SUPPRESSO
TITLE OF INVENTION: DETECTION OF CL
                                                                                                                                                                                                                  01-JAN-1900
                                                                                                                                                                                                                                                       US-08-445-648-14 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                  962
                                                                                                                                                                                                                                                                                                                                                                                                         902
                                                                                                                                                                                                                                                                                                                                                                                                                                           902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                  962 CCAAGACAT 970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182 GATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAG
           TITLE OF INVENTION: THE NUMBER OF SEQUENCES: 1 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATGGAAGGCAGCACACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCATCTGATGCCTTAATTTTGGGGAAGATAAAAAATGTTGATTGCATCCTCCTTGCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAG
                                                                                                                                                                                                                                                                                                                                CCAAGACAT
                                                                                                                                                                                                                                                                                                                                                                                                     GCAGAAAGCTTCATGTTCCGCACCTGGGGGGGGGGGGTTATCAACATGACCACAGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCGGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGAGCCGTTTTGCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGGA 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGAAAGCTTCATGTTCCGCACCTGGGGGGGGGGGGTTTATCAACATGACCACAGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATGGAAGGCAGCACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCATCTGATGCCTTAATTTTGGGGAAGATAAAAAATGTTGATTGCATCCTCCTTGCAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCCGGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGAG
                                                                                                                                                                                                                                                                                                                                  970
                                                   TREATMENT
                                                                                  TUMOR SUPPRESSOR GENE AND METHODS FOR DETECTION OF CANCER, MONITORING OF TU
                                                                                      OF TUMOR PROGRESSI
                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
,
Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88888888888888888888888888888888888
               ដូនមួយប្រ
                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 24
         Sequence 1, Application US/08176855
Sequence 1, Application US/08178855
GENERAL INFORMATION:
APPLICANT: Nobori, Tsutomu
APPLICANT: Carson, Dennis A.
                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505
                                                                                                                                          US-08-176-855-1
                                                                                                                                                                                                                                                   1202 CAGT 1205
                                                                                                                                                                                                                                                                                                                            1142 TTTGTTACGCAAGTATCGCCATGGGCACAGATTATGACTGCTGGAAGGAGCACGAGGAAG 1201
                                                                                                         01-JAN-1900
                                                                                                                        XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1022 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/445,648
FILING DATE: 22-MAY-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/227,800
FILING DATE: 14-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 07340/02300
REFERENCE/DOCKET NUMBER: 07340/02300
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/678-5070
                                                                                                                                                                                                                                                                                           750
                                                                                                                                                                                                                                                                                                                                                                                                                                       630 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 619/678-507
TELEFAX: 619/678-5099
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                  810 CAGT 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   962 AGGTTCTTATAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGACAATGG 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 92037
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLONE: Methylthioadenosine Phosphorylase (genomic) FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: line MOLECULE TYPE: DIMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Fish & Richardson P.C. STREET: 4225 Executive Square, Su CITY: La Jolla STATE: California
                                                                                                                                                                                                                                                                                           TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     h 28.3%;
Similarity 99.2%;
242; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cal
                                                                                                                                          STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 240; DB 59;
Pred. No. 2.29e-222;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07340/023001
                                                                                                                                          2763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G; 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ŧ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
```

Gaps

0

809

689

APPLICANT: Takabayashi, Kenji TITLE OF INVENTION: METHOD FOR DETECTION OF TITLE OF INVENTION: METHYLTHIOADENOSINE PHOSPHATASE DEFICIENCY IN MAMM

```
RESULT
ID US
AC X3
DT 01
DE Se
                                                                                                 멍
                                                                                                                     ş
                                                                                                                                            В
                                                                                                                                                                δÃ
                                                                                                                                                                                       В
                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                              Query Match 28.3%; Score 240; DB 32; Length 2763; Best Local Similarity 99.2%; Pred. No. 2.29e-222; Matches 242; Conservative 0; Mismatches 2; Indels 0;
                                                                                                                                                                                                                                                                                                                                          IMMEDIATE SOURCE:
CLONE: methyladenosine phosphatase
FEATURE:
FEATURE: CDS
NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
                                                                                                                                                                                                           T 5
US-08-443-880-14 STANDARD; DNA; UNC; 2763
                                                                                                                                                                              1082 GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (619) 455-5110
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acts
 xxxxxx
01-JAN-1900
Sequence 14, Application US/08443880
                                                                                                  1202 CAGT 1205
                                                                                                                                                                                                                                                     CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: HOWALLS, Stacy L.
REGISTRATION NUMBER: 34,842
REFERENCE/DOCKET NUMBER: PD30
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 455-5100
                                                                                                                                                                   690 GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA
                                                                             810 CAGT 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 1880 Century Park East, Suite 500 CITY: Los Angeles
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90067
                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                            DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34,842
PD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US/08/176,855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PD3057
                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                     749
                                                                                                                                                                                                                                                                                                     0
```

```
CC Sequence 14, Application US/08443880
CC GENERAL INFORMATION:
CC APPLICANT: CARSON, DENNIS A.
CC APPLICANT: NOBORI, TSUTOMU
CC TITLE OF INVENTION: DETECTION OF
CC TITLE OF INVENTION: DETECTION OF
CO AND CANCER
                                                  õ
                                                                              밁
                                                                                                    Š
                                                                                                                                В
                                                                                                                                                      á
                                                                                                                                                                                  B
                                                                                                                                                                                                           á
                                                                                                                                                                                                                                    B
Š
                            밁
                                                                                                                                                                                                                                                             Query Match
Best Local Simil
Matches 242;
                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: Methylthioadenosine Phosphorylase (genomic)
FEATURE: CDS
NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
                                                                                                                                                      1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC COMPATION
OPERATING SYSTEM: PC-DOS/M
SOFTWARE: PATCHOIL RELEASE
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/-
FILING DATE: 22-MAY-1995
CLASSIFICATION: 530
PRIOR APPLICATION: DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION TOMBER: 08/227
FILING DATE: 14-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: GOATE: TOMBER: 08/207
                            1202 CAGT 1205
                                                                                                       690
                                                                                                                                                                                                           TELEFAX: 619/678-5099
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                           962 AGGTTCTTATAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGACAATGG 1021
  810 CAGT
                                                   750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: PC-DOS/MS-DOS

COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: TREATMENT NUMBER OF SEQUENCES: 18 CORRESPONDENCE ADDRESS: P1sh & Richardson P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 34,842
REFERENCE/DOCKET NUMBER: 07
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/678-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 4225 Executive Square, Suite 1400 CITY: La Jolla STATE: California
                                                                                                     COUNTRY:
                                                     TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                      TTTGTTACGCAAGTATCGCCATGGGCACAGATTATGACTGCTGGAAGGAGCACGAGGAAG 1201
                                                                                                                                                                                                                                                             th 28.3%;
Similarity 99.2%;
242; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TUMOR SUPPRESSOR GENE AND METHODS FOR DETECTION OF CANCER, MONITORING OF TUMOR PROGRESSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08/227,800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/08/443,880
                                                                                                                                                                                                                                                                            Score 240;
Pred. No. 2.
                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07340/023001
                                                                                                                                                                                                                                                                                         DB 59; Length 2763;
                                                                                                                                                                                                                                                                   ,0
                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                 629
```

```
Ş
                                                   F
                                                                           δ
                                                                                                      밁
                                                                                                                              á
                                                                                                                                                           밁
                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                       Query Match
Best Local 9
                                                                                                                                                                                                                                         Matches
                                                   1142
                                                                                                        1082
                                                                                                                                                  1022 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/08227800A. Sequence 14, Application US/08227800A GENERAL INFORMATION:
1202 CAGT 1205
                                                                                                                                                                                                                                                                                           Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-227-800A-14 STANDARD; DNA; UNC;
                                                                                                                                 630
                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                               069
                                                                                                                                                                                  750
                                                                                                                                                                                                               962 AGGTTCTTATAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGACAATGG 1021
                                                                                                                                                                                                                                        Match 28.3%; Score 240; DB 37; Local Similarity 99.2%; Pred. No. 2.29e-222; les 242; Conservative 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION WIMBER: US/08/227,800A
FILING DATE: 14-APR-1994
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: CARSON, APPLICANT: NOBORI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 619/678-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 4225 Exe
CITY: La Jolla
STATE: Californ
COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                              IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                          GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA 1141
                                                                                                                               TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                           GGGCGGATGTTATCAACATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAA 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            σ
                                                  TTTGTTACGCAAGTATCGCCATGGGCACAGATTATGACTGCTGGAAGGAGCACGAGGAAG 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: HOWELLS, STACY L. REGISTRATION NUMBER: 34. REFERENCE/DOCKET NUMBER:
                         TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                                                                                                                                                                                                                               CLONE: Methylthioadenosine Phosphorylase (genomic)
                                                                                                                                                                                                                                                                                                         NAME/KEY: CDS
LOCATION: 1...
                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4225 Executive Square, Suite 1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        619/678-5099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARSON, DENNIS A. NOBORI, TSUTOMU
                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fish & Richardson P.C.
                                                                                                                                                                                                                                                                                                           . 2763
                                                                                                                                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TREATMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TUMOR SUPPRESSOR GENE AND METHODS DETECTION OF CANCER, MONITORING OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34,842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07340/023001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2763
                                                                                                                                                                                                                                                                 Length 2763;
                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OF TUMOR PROGRESSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOR
                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                        Gaps
                                                                                                                                 689
                         809
                                                                                                                                                                                                                                        0
           Ş
                                                             Š
                                                                                         밁
                                                                                                                QΥ
                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                               Ş
                                     밁
                                                                                                                                            밁
                                                                                                                                                                                               뭥
                                                                                                                                                                                                                        Query Match
Best Local S
Matches 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 14, Application US/08227800 Sequence 14, Application US/08227800 GENERAL INFORMATION:
                                                           NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G;
                         1142 TTTGTTACGCAAGTATCGCCATGGGCACAGATTATGACTGCTGGAAGGAGCACGAGGAAG 1201
                                                                                                                                           1022 TCACAATCGAGGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-227-800-14 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          XXXXXX
                                                                                                                630 TCACAATCGAGGACCTCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/455-5100
TELEFAX: 619/455-5110
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          810 CAGT
                                                                                                                                                                    570 AGGTTCTTATAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGACAATGG 629
                                                                                                                                                                                               962 AGGITCITATAGAGACTGCTAAGAAGCTAGGACTCCGGTGCCACTCAAAGGGGGACAATGG 1021
           750
                                                                                                                                                                                                                        7 Match 28.3%; Local Similarity 99.2%; local Similarity 29.2%; los 242; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 14

CORRESPONDENCE ADDRESS:

ADDRESSEE: SPENSLEY HORN JUBAS 6 LUBITZ

STREET: 1880 Century Park East, Suite 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: CARSON, DENNIS A.
APPLICANT: NOBORI, TSUTOMU
TITLE OF INVENTION: METHODS:
TITLE OF INVENTION: SUSCEPTII
                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                               IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 1880 Centi
         TTTGTTACGCAAGTATCGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAG
                                                                                                                                                                                                                                                                                                                               CLONE: Methylthioadenosine Phosphorylase (genomic)
                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           813
                                                                                                                                                                                                                                                                                                                                                                                                 nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 California
                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                           DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               METHODS FOR TREATMENT AND DETECTION OF CANCER SUSCEPTIBILITY TO, AND PROGRESSION OF, CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  34,842
DD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/227,800
                                                                                                                                                                                                                        Pred.
                                                                                                                                                                                                                                     Score 240;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PD3459
                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2763
                                                                                                                                                                                                                                                                             803
                                                                                                                                                                                                                                     DB 37; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                            T; 77 other;
                                                                                                                                                                                                                                                 Length 2763;
                                                                                                                                                                                                                          Indels
```

Gaps

809

밁

1202

810

CAGT

```
Š
                                                                                                                                                         밁
                                                                                                                                                                              Ş
                                                         밁
                                                                               ğ
                                                                                                    밁
                                                                                                                                                                                                        밁
                                  Š
             밁
                                                                                                                                                                                                                               Query Match
Best Local S
Matches 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 5097, Applic
Sequence 5097, Applic
GENERAL INFORMATION
                                                                                                                                                                                                                                                                         TELEFAX: (201) 994-1744

INFORMATION FOR SEQ ID NO: 5097:
SEQUENCE CHARACTERISTICS:
LENGTH: 495 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
Sequence 495 BP; 97 A; 96 C; 127 G; 131 T; 44 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-220-691-5097
                                                                                                                                                                                109 ATGGCCTCTGGCACCACCACCACCGCCGTGTAAGATTGGNAATAATTGGTGGAACAGGCC 168
                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Olstein, Elliot
REGISTRATION NUMBER: 24,025
REFERENCE/DOCKET NUMBER: 3258
TELECOMMUNICATION INFORMATION:
TELEPHONE: (201) 994-1700
                                                            288
                                                                                                  228 AGCCATCTGATGCCTTAATTTTGGGGGAAGNTAAAAAATGTTGATTGCGTNCTCCTTGGC
                                                                                                                                                 169 TGGATGATCCAGAA-TTTTAGAAGGAAGAACTGCCAAATATGTGGGATACTCCATTTGGCA 227
298
                                                                                   240
                                                                                                                                   180 TGGATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 6 L.
STREET: Noseland
CITY: Roseland
TMATE: New Jersey
HSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: MSDO:
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Human Genes, Sequences, TITLE OF INVENTION: ExpressionProducts NUMBER OF SEQUENCES: 12049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 435
RIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Carella, Byrne, Bain, Gilfillan, ADDRESSEE: Cecchi, Stewart, & Olstein STREET: 6 Becker Farm Road
                                                    AAAGGCATGGTAGGNAGNACACCATCANGGCCTTTAAAGGTTCAATTACCAGGGGANNTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                   AGCCATCTGATGCCTTAATTTTGGGG-AAGATAAAAAATGTTGATTGCATCCTCCTTG-C
                                    AA-GGCATGGAAGGCAGCACCATCATG-CCTTCAAAGGT-CAACTACCAGGCGAACAT
                                                                                                                                                                                                                               h 20.4%;
Similarity 81.3%;
260; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08220691
Application US/08220691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haseltine, William, et. al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: Diskette,
HP Vectra 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MSDOS version 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/08/220,691
                                                                                                                                                                                                                             Score 173; DB 37; Length 495;
Pred. No. 4.96e-150;
0; Mismatches 50; Indels 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.50 inch, 1.4Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                      325800-71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                  Gaps 10;
                406
                                       354
                                                               347
                                                                                      297
                                                                                                             287
                                                                                                                                      239
                                                                                                                                                                                    179
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ő
                                                                                                                                                    Ş
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                               γ
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                               δÃ
                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: GREEN, GRANT
REGISTRATION NUMBER: 31,259
REFERENCE/DOCKET NUMBER: 1182.003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 510-651-2706
TELEPAX: 510-655-3542
INFORMATION FOR SEQ ID NO: 14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSTEEL STORY OF SET 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/08624190.
Sequence 14, Application US/08624190
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-624-190-14 STANDARD; DNA; UNC; 578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
Sequence 578 BP; 37 A; 11 C; 62 G; 65 T; 403 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355
                                                                                                                                                                                                                                                                                                                                                                        349 GAACATCTGGGCTTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGG 408
242 RKVHTATYRRTRDKYAYTKKATGMKYNSWCDRVWKSYVHVVCSYGSTSDMTSDHSV-ATA 300
                                                           528
                                                                                                           182
                                                                                                                                                             468
                                                                                                                                                                                                                   122
                                                                                                                                                                                                                                                                     409 CTCCTTGAGGGAGGAGTTCAGCCCGGCGAT-ATTGTCATTATTGATCAGTTCATTGACA 467
                                                                                                                                                                                                                                                                                                                  62 DGSDKYSHKKKSKNKVVTKKRKYVADSKKRGCMKNKHSDMTGTWNMGNAKKTSWSKGGKT 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match 11.7%; Score 99; DB 66; Length 578; Local Similarity 12.4%; Pred. No. 3.37e-72; es 70; Conservative 266; Mismatches 222; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 94608
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: CHIRON CORPORATION
STREET: 4560 HORTON STREET
                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: KAVANAUGH PH.D., MICHAEL
APPLICANT: POT PH.D., DAVID
APPLICANT: WILLIAMS PH.D., LEWIS T.
TITLE OF INVENTION: SIGNALLING INOSITOL POLYPHOSPHATE
TITLE OF INVENTION: 5-PHOSPHATASE
NUMBER OF SEQUENCES: 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 578 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGAGGGAGGAGATTCAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGGGGGGGGNTTTTNACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGGCTTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTT-GTGGCTCCT 413
                                                                                                        VSMNGTSGVNSHTSGSKKRRNNYMNRAGDKKSNTHRTHWGDNYRVDTWATKKYADSHDTR 241
                                                        GCCATATTCCAATGGCTGAGCCGTTTTGCCCCCAAAACGAGAGGGTTCTTATAGAGACTG
                                                                                                                                                             GGACCACTATGAGACCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGT
                                                                                                                                                                                                                RDDSADYHDYVGTDSKWKHSTSVTKTVAHTWNRVVAKHNRSHCTDNVKTGANTGNKGAVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMERYVILLE
: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/08/624,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                      527
                                                                                                                                                                                                                         181
                                                                 587
```

S 밁 Š 밁 õ 밁 Ş 밁

Ş 밁

```
Query Match
Best Local S
Matches 4
                                                                    MOLECULE TYPE:
Sequence 578 BP; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/08624190
Sequence 14, Application US/08624190
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-624-190-14 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        588
     8.7%;
Local Similarity 11.7%;
hes 48; Conservation
                                                                                                                                      TELEFAX: 510-655-3542
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 578 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          706 CATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        886 ACCTCAGATAGGGTCCACAGAATGG 910
                                                                                TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linar
                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: POT PH.D., DAVID
APPLICANT: WILLIAMS PH.D., LEWIS T.
TITLE OF INVENTION: SIGNALLING INOSITOL POLYPHOSPHATE
TITLE OF INVENTION: 5-PHOSPHATASE
NUMBER OF SEQUENCES: 38
                                                                                                                                                                                               TELEPHONE: 510-601-2706
                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: GREEN, GRAUT
REGISTRATION NUMBER: 31,259
REFERENCE/DOCKET NUMBER: 1182.003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: C
                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 4560 HURL
CITY: EMERYVILLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGTTTTAGCTCCCGGGCAGAAAGCTTCATGTTCCGCACCTGGGGGGCCGGATGTTATCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GVTSVSKNGGTVDSGRCYATKTKSTKYHSSCSVKSGNGSGVVKGTKKSDYDHSKSSDSDS 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAAGAA-GCTAGGACTCCGGTGC-CACTCAAAGGGGACAATGGTCACAATCGAGGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RKSRSNTTTRVKSAVHHSKGRDYRD 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGTCTTAAAGACCCTGAAAGAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NNYMGVGGMHVKTSDTAWSYDKDSGCRGSTGSKKSTANRGRTSRSDGKNAGDTDTKMNYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YGGCARATTYTTHHGTGHGKTSGKTRKYDVKTRDSSGK-TKSTSHDMKWVTSRACSGSST 419
                                                                                                                                                                                             TELEPHONE:
                                                                                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/624,190 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSKARKDSKMRKCGSSVTKAADRGGGKVARRSTCSSSAGRAAGGDKSGKKTVSSAV-AK
                                                                                                                                                                                                                                                                                                                                                                                                                                     Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: CHIRON CORPORATION 4560 HORTON STREET
                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KAVANAUGH PH.D., MICHAEI
                                                                   : protein
37 A; 11 C;
                                                                                                                                                                                                                                                                                   435
                           Score 74; DB 66; Length 578; Pred. No. 5.66e-47;
                                                                    62
                                                                    <u>ი</u>
             Mismatches 147; Indels
                                                                    65 T; 403 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВP
             9;
             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    825
             9
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ද
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ďЭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 8, Application US/08446939
Sequence 8, Application US/08446939
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-446-939-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362 GGCARATTYTTHHGTGHGKTSGKTRKYDVKTRDSSGKTKSTSHDMKWVTSR 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  620
                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Lin, Hervet.
APPLICANT: Wang, Xiao-Fan
APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
APPLICANT: Lodish, Harvey F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                                                             CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 31-OCT-1991
CLASSIFICATION: 530
                                                                                                                                                               CLASSIFICATION: 530
PRIOR APPLICATION DATA:
OTHER OF THE PRIOR APPLICATION NUMBER: US
           REFERENCE/DOCKET NUMBER: WHITELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                     ATTORNEY/AGENT INFORMATION: NAME: Granahan, Patricia
                                                                                                                                                                                                                                     SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: TGF- TYPE TITLE OF INVENTION: Products
                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VTSVSKNGGTVDSGRCYATKTKSTKYHSSCSVKSGNGSGVVKGTKKSDYDHSKSSDSDSY 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCA-TCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAATGAACTGAT-CAATAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGGGGCAAAACGGCTC-AGCCATTGGAATATGGCACACTCCTCTGGCACAAGAATGACT 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTCGATTG-TGACCATTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SARVRTSSRDSGRRVGANNMVSKSTSSSDKVKAHGSHRSVTVKASGKMKVDVSGKKKSKD
                                     NAME: Granahan, Patricia REGISTRATION NUMBER: 32,
                                                                                                                                                 APPLICATION NUMBER: US 0
FILING DATE: 23-SEP-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATGATGGTGTGCCTTCCATGCCTTGCAAGGAG-GATGCAATCAACA 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGTGTACAGCCCTCTTCCATCAAAGCCCCAGATGTT-CGCCTGGTAGTTGACCTTTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAATATCGCCGGGCTGAATCTCCTCCCTCAAGGAGCCACAAGCTGTGG-TCACTATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RKVHTATYRRTRDKYAYTKKATGMKYNSWCDRVWKSYVHVVCSYGSTSDMTSDHSVATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RDDSADYHDYVGTDSKWKHSTSVTKTVAHTWNRVVAKHNRSHCTDNVKTGANTGNKGAVG 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTCTATA-AGAACCTCTCTCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSDKYSHKKKSKNKVVTKKRKYVADSKKRGCMKN-KHSDMTGTWNMGNAKKTSWSKGGKT 121
                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VSMNGTSGVNSHTSGSKKRRNNYMNRAGDKKSNTHRTHWGDNYRVDTWATKKYADSHDTR
                                                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                                         02173
                                                                                                                                                                                                                                                                                                                                                                 Lexington
                                                                                                                                                                                                                                                                                                                                                  Massachusetts
                                                                                                                                                                                                                                                                                                                                                                            E: Hamilton, Brook
Two Militia Drive
                                                                                                                                                                                                                                                                                                                                     U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD; DNA; UNC; 383
                                                                                                                                                                                                                                                   Release #1.0, Version #1.25
                                                                                                                                                                                                                       US/08/446,939
                                     32,227
                                                                                                                                                                                                                                                                                                                                                                                         Brook,
                                                                                                           07/786,063
                                                                                                                                                                 08/311,703
                           WHI91-09FX
                                                                                                                                                                                                                                                                                                                                                                                                                                    pe Receptor cDNAs and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                         Smith & Reynolds,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNAs Encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        327
```

```
888888888
ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                             င္မ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             င္မ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ср
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    င္မ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      င္
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 7.8%;
Best Local Similarity 11.9%;
Matches 43; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: DNA (genomic) Sequence 383 BP; 27 A; 25 C; 26 G;
                                                                                                                                                                                                                                                                                               Sequence 8, Application US/08311703
Sequence 8, Application US/08311703
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                            US-08-311-703-8 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                341 A 341
                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     578 T-AAGAACCTCTCTCGTTTTGGGGCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 TSCKVCVAVWRKNDNTTVCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDVVTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MTSSGVCHGSGAAGWHVWTRASTHVKSVNNDMVTDNNGAVKCKCDVRSTCDNKSCMSNCS
                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/311,703
                                                                                                                                                                                                   APPLICANT: Lin, Herbert Y.
APPLICANT: Wang, Xiao-Ran
APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
TITLE OF INVENTION: TGF-Beta Type Receptor cDNAs
TITLE OF INVENTION: Products and Uses Therefor
NUMBER OF SEQUENCES: 8
                                                                                                                                                                                 CORRESPONDENCE ADDRESS: ADDRESSEE: Hamilton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 383 b
TYPE: nucleic
STRANDEDNESS:
TOPOLOGY: lin
                                                                                                                                        STREET: Two Mili-
CITY: Lexington
STATE: Massachus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATTGTGACCATTGTCCCCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTC-TA 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAACTGATCAATAATGACAATATCGCCGGGCTGAATCTCCTCCCT-CAAGGAGCCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSDHTCGRKMVHRDKSSNVKNDTCCCDGSRGYSSVDDANSGVGTARYMAVSRMNNASKTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                         A 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCCAGATGTTCGCCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGGCACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAAT
  FILING DATE:
CLASSIFICATION:
                                                                                                                                                                               ADDRESSEE:
                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nucleic acid
                                                                                                                    02173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE:
                                                                                                                                         Massachusetts
                                                                                                                                                                  E: Hamilton, Brook, Smith & Reynolds,
Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        383 base pairs
                                                                                                                              U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 4.01e-39;
165; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 66; DB 59;
Pred. No. 4.01e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34 T; 271 other;
                                                                                                                                                                                                                                                                                                                                                                  383
                                                                                                                                                                                                                                                                                                                                                                ₽₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 383;
                                                                                                                                                                                                                                   Encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
```

```
RESULT THE STATE OF THE STATE O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS: d
TOPOLOGY: linea
MOLECULE TYPE: DN
Sequence 383 BP; 27 P
                                                                                                                                                                                                                                                                                                                                                                           Sequence 8, Application US/08446936
Sequence 8, Application US/08446936
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-446-936-8 STANDARD; DNA; UNC; 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 383 base pairs:
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY_AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: WHIS
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                xxxxxx
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                697 ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                578 T-AAGAACCTCTCTCGTTTTGGGGCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        637 GATTGTGACCATTGTCCCCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTC-TA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                341 A 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 A 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 HSDHTCGRKMVHRDKSSNVKNDTCCCDGSRGYSSVDDANSGVGTARYMAVSRMNNASKTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 TSCKVCVAVWRKNDNTTVCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDVVTG 120
                                                                                                                                                                                                                                                                      APPLICANT: Lin, He APPLICANT: Wang, I APPLICANT: Weinber APPLICANT: Lodish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MTSSGVCHGSGAAGWHVWTRASTHVKSVNNDMVTDNNGAVKCKCDVRSTCDNKSCMSNCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 31-OCT-
                                                                                                                             APPLICANT: Wang, Xiao-Fan
APPLICANT: Weinberg, Robert A.
APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
TITLE OF INVENTION: TGF- Type Receptor cDNAs Encoded
TITLE OF INVENTION: Products and Uses Therefor
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEB: Hamilton, Brook, Smith & Reynolds, P.C.
ADDRESSEB: Hamilton, Brook, Smith & Reynolds, P.C.
CITY: Lexington
STATE: Massachus
COUNTRY: U.S.A.
ZIP: 02173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCAGATGTTCGCCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACTGATCAATAATGACAATATCGCCGGGCTGAATCTCCTCCCT-CAAGGAGCCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGGCACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSTVAVKYDHYASWKDRKDSDNKHNTARKTGKYWTAHAKGNYTRHVSWDRNVGSSARGSH
                                                                                                           STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        h 7.8%;
Similarity 11.9%;
43; Conservative
                                                   Massachusetts
                                                                                                           Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                         Lin, Herbert Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
E: DNA
; 27 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MHER: US 07/786,063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             * (genomic): 25 C; 26 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 66; DB 46; Length 383
Pred. No. 4.01e-39;
165; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WHI91-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G; 34 T; 271 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
```

MEDIUM TYPE: Floppy

Floppy disk

```
RESULT
ID US
AC XX
DT 01
DE S6
CC S6
CC C
                                                                                                                                                                                              ဌ
                                                                                                                                    မှ
                                                                                                                                                                  뭕
                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                      မ
                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                   မှ
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                           ç
                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION UNMBER: US 08/311,703
PRILING DATE: 23-SEP-194
CLASSIFICATION EDATA:
S30
PRIOR APPLICATION DATA:
APPLICATION DATA:
S30
PRIOR APPLICATION DATA:
APPLICATION INDEER: US 07/786,063
FILING DATE: 31-OCT-1991
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: WHI91-09FY
TELECOMMUNICATION: 1070RMATION:
TELEPHONE: 617-861-6240
INFORMATION FOR SED ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 383 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: DNA (genomic)
Sequence 383 BP; 27 A; 25 C; 26 G; 34 T; 271 other;
Sequence 8, Application US/08446937
Sequence 8, Application US/08446937
GENERAL INFORMATION:
                                             01-JAN-1900
                                                                          US-08-446-937-8 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     697
                                                                                                                                                                                              401
                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                     520
                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                              578
                                                                                                                                      341 A 341
                                                                                                                                                                                                                                                                                                                                                                                                         121 SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                       637 GATTGTGACCATTGTCCCCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTC-TA 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 TSCKVCVAVWRKNDNTTVCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDVVTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MTSSGVCHGSGAAGWHVWTRASTHVKSVNNDMVTDNNGAVKCKCDVRSTCDNKSCMSNCS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match 7.8%;
Local Similarity 11.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: 1
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
CURRENT APPLICATION DATA:
                                                                                                                                                                A 361
                                                                                                                                                                                                                                                      CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCCAGATGTTCGCCTGGT
                                                                                                                                                                                                                          VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART 360
                                                                                                                                                                                                                                                                                    HSDHTCGRKMVHRDKSSNVKNDTCCCDGSRGYSSVDDANSGVGTARYMAVSRMNNASKTD 300
                                                                                                                                                                                                                                                                                                                 TCTGGCACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAAT
                                                                                                                                                                                                                                                                                                                                              TSTVAVKYDHYASWKDRKDSDNKHNTARKTGKYWTAHAKGNYTRHVSWDRNVGSSARGSH 240
                                                                                                                                                                                                                                                                                                                                                                             T-AAGAACCTCTCGTTTTGGGGCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCC 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAAACGAGGTCCCTC 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: dou
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.8%; Score 66; DB 59; Length 383 larity 11.9%; Pred. No. 4.01e-39; Conservative 165; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Release #1.0, Version
                                                                          DNA; UNC; 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/08/446,936
                                                                          BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                   461
                                                                                                                                                                                                                                                        402
```

```
밁
                                          ç
                                                                        밁
                                                                                                  င္ပ
                                                                                                                                밁
                                                                                                                                                            င္ပ
                                                                                                                                                                                          밁
                                                                                                                                                                                                                   မှ
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                               င္မ
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 7.8%; Score 66; DB 59; Length 383
Best Local Similarity 11.9%; Pred. No. 4.01e-39;
Matches 43; Conservative 165; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 61/-001 8:
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
1-NIGTH: 383 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                  181
                                                                                                                                                                                                                   637 GATTGTGACCATTGTCCCCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTC-TA 579
                                                                                                                                                                                                                                                                                  697
301 VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART
                                                                                                                                                            578 T-AAGAACCTCTCTCGTTTTGGGGCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08,
FILING DATE: 23-SEP-1994
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07,
FILING DATE: 31-OCT-1991
                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
quence 383 BP; 27 A; 25 C; 26 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Wang, Xiao-Fan
APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
TITLE OF INVENTION: TGF- Type Receptor cDNAs Encoded
TITLE OF INVENTION: Products and Uses Therefor
NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                          1 MTSSGVCHGSGAAGWHVWTRASTHVKSVNNDMVTDNNGAVKCKCDVRSTCDNKSCMSNCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/446,937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: WH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION: TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                               ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAAACGAGGTCCCTC
                                                                        HSDHTCGRKMVHRDKSSNVKNDTCCCDGSRGYSSVDDANSGVGTARYMAVSRMNNASKTD
                                                                                                                               TSTVAVKYDHYASWKDRKDSDNKHNTARKTGKYWTAHAKGNYTRHVSWDRNVGSSARGSH
                                                                                                                                                                                      SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN 180
                                                                                                                                                                                                                                                  TSCKVCVAVWRKNDNTTVCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDVVTG
                                         GAACTGATCAATAATGACAATATCGCCGGGCTGAATCTCCTCCCT-CAAGGAGCCACAAG
                                                                                                   TCTGGCACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Lexington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Hamilton, Brook,
Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US 07/786,063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08/311,703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WHI91-09FW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Smith & Reynolds,
                                                                                                                                                                                                                                                                                                                                                                                                   34 T; 271 other;
                                                                                                                                                                                                                                                                                                                                                                     Length 383;
                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                            521
                                                                                                                                                                                                                                                   120
             360
                                          402
                                                                        300
                                                                                                   461
                                                                                                                                240
                                                                                                                                                                                                                                                                                638
                                                                                                                                                                                                                                                                                                            60
```

4.

CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCAGATGTTCGCCTGGT 342

```
밁
                                                    Сþ
                                                                                밁
ç
                          В
                                                                                                         Query Match 7.8%; Score 66; DB 60; Length 383; Best Local Similarity 11.9%; Pred. No. 4.01e-39; Matches 43; Conservative 165; Mismatches 149; Indels 4; Gaps
                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 383 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
Sequence 383 BP; 27 A; 25 C; 26 G; 34 T; 271 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 8, Application US/08451946. Sequence 8, Application US/08451946 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         xxxxxx
01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T 15
US-08-451-946-8 STANDARD; DNA; UNC; 383
                                                       697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341 A 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 A 361
 637 GATTGTGACCATTGTCCCCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTC-TA 579
                                                                                                                                                                                                                                                                 TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO:
                          61 TSCKVCVAVWRKNDNTTVCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDVVTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                               1 MTSSGVCHGSGAAGWHVWTRASTHVKSVNNDMVTDNNGAVKCKCDVRSTCDNKSCMSNCS 60
                                                                                                                                                                                                                                                                            NAME: Granahan, patricla
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: WH.
TELECOMMUNICATION INFORMATION:
TELEDBHONE: 617-861-6240
TELEBHONE: 617-861-9540
                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 23-SEP-1994
CLASSIFICATION: 530
PRIOR APPLICATION NUMBER: US 07/786,063
FILING DATE: 31-OCT 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT AFFLICATION NUMBER: US/08/451,540
APPLICATION NUMBER: US/08/451,540
EILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US/08/311,703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
TITLE OF INVENTION: TGF- Type Receptor cDNAs Encoded
TITLE OF INVENTION: Products and Uses Therefor
NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                     ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTC
                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 0 FILING DATE: 23-SEP-1994 CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in, Herbert Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xiao-Fan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brook, Smith & Reynolds, P.C
                                                                                                                                                                                                                                                                 8.
                                                                                                                                                                                                                                                                                                                     WHI91-09FV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВP
                                                       638
                                                                                                              4;
```

```
Сþ
                                                                                                                                                                                                                                        Сb
                                                                                                                                                                                                                                                                                                                     ç
ဌ
                                      밁
                                                                           ဌ
                                                                                                                    밁
                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                             401 CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCCAGATGTTCGCCTGGT
                                                                                                                                                                                 241 HSDHTCGRKMVHRDKSSNVKNDTCCCDGSRGYSSVDDANSGVGTARYMAVSRMNNASKTD 300 ::| ::|::: : : : : ::|::: |: :
                                                                                                                                                                                                                                            520
                                                                                                                                                                                                                                                                              181 TSTVAVKYDHYASWKDRKDSDNKHNTARKTGKYWTAHAKGNYTRHVSWDRNVGSSARGSH 240
                                                                                                                                                                                                                                                                                                                     578 T-AAGAACCICICGITTIGGGGCAAAACGGCTCAGCCAITGGAATA-IGGCACACICC 521
                                                                                                                                                                                                                                                                                                                                                            121 SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN 180
341 A 341
                                      361 A 361
                                                                                                                    301 VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART 360
                                                                                                                                                            TCTGGCACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCTGTCAAT 461
                                                                                                                                                               402
```

Search completed: Tue Feb 11 00:26:10 1997 Job time : 1221 secs.

***************************************	[] [] [] [] [] [] [] [] [] [] [] [] [] [

****	Ē

Release 2.1D John F. Collins, Biocomputing Research Unit. Copyright (c) 1993, 1994, 1995 University of Edinburgh, U.K. Distribution rights by IntelliGenetics, Inc.

MPsrch_nn n.a. n.a. database search, using Smith-Waterman algorithm

Run on: Mon Feb 10 23:14:27 1997; MasPar time 85.57 Seconds 733.430 Million cell updates/sec

Tabular output not generated.

Title:
Description:
Perfect Score:
N.A. Sequence:
Comp: >US-08-674-311-1 Untire Deg (1-2269) from US08674311.seq (1 of 2) 2269 1 GAATTCCGCTCCGCACTGCT......AAAAAAAAAAAAAGCGGAATTC 2269 CTTAAGGCGAGGCGTGACGA......TTTTTTTTTTTTTCGCCTTAAG

Scoring table: TABLE default Gap 6

Nmatch STD : Dbase 0; Query 0

Searched:

Post-processing: Minimum Match 0% Listing first 45 summaries

50278 seqs, 13829960 bases x 2

Database:

n-issued 1:51 2:52 3:53 4:54 5:55 6:PCT90 7:PCT91 8:PCT92 9:PCT93 10:PCT94 11:PCT95 12:PCT96

Statistics: Mean 9.387; Variance 5.460; scale 1.719

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

n	o		o	o		ဂ	ი			O				, 8
18 19	16 17	14 15	12 13	10 11	9	œ	7	6	տ	4	w	2	_	Result No.
23 22	223	24 22	24 25	25 25	24	25	25	24	31	33	466	466	466	Score
1.0	1.0	1.1	1.1 1.1	1 1 1 1	1.1	1.1	1.1	1.1	1.4	1.5	20.5	20.5	20.5	Query Match Length
75 81	74 74								215	215		2763	2763	
111	111	2 2			11	11	11	1	σ	տ	10	G	10	BU
PCT-US95-1 PCT-US95-1	PCT-US95-1 PCT-US95-1	US-08-484- PCT-US96-0	PCT-US95-1 PCT-US95-1	PCT-US95-1 PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	PCT-US95-1	US-08-238-	US-08-238-	PCT-US94-1	US-08-176-	PCT-US94-1	ID
Sequence 99, Sequence 92,	Sequence 94, Sequence 94,	Sequence 17, Sequence 269	Sequence 97, Sequence 97,	Sequence 92,				Sequence 100,	Sequence 5,	Sequence 5,	Sequence 1,	Sequence 1,	Sequence 1,	Description
Applicati Applicati	Applicati Applicati	Applicati , Applicat	Applicati Applicati	Applicati Applicati	Applicati	~		, Applicat	Applicatio	Applicatio	Applicatio	Applicatio	Applicatio	
8.40e-01 2.45e+00	8.40e-01 2.45e+00	2.80e-01 2.45e+00	2.80e-01 9.13e-02	2.80e-01 9.13e-02	2.80e-01	9.13e-02	9.13e-02	2.80e-01	7.16e-05	5.79e-06	0.00e+00	0.00e+00	0.00e+00	Pred. No.

	o	O															
444 543	41 42	39 40	37 38	ა ა ი	34	ω ω ω N	31	30	29	28	27	2 0	24	23	22	21	20
21 21 21	21 21	22 21	23 23	22 23	22	2 2 3 3	22	22	23	23	22	2 2	22	22	22	22	22
00.9								•						٠			
2511 3138 3291	2258 2504	19557 105	8392 8392	3933 8342	3933	3183 3387	3074	3035	2923	2913	2653	2504	1952	1841	1270	1064	397
10 10																	
100	US-07-720- US-08-484-	PCT-US92-0 US-07-865-	PCT-US93-0	US-08-199- PCT-US94-0	PCT-US95-0	US-08-243-	PCT-US93-1	PCT-US94-0	US-08-243-	US-08-243-	US-08-325-	PCT-08-484-	US-08-333-	PCT-US95-0	PCT-US94-1	PCT-US94-1	PCT-US92-1
Sequence Sequence Sequence	Sequence Sequence	Sequence	Sequence	Sequence Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	sequence	Sequence	Sequence	Sequence	Sequence	Sequence
1,4,1	1,		ש מ	63,	1,	., α		1,	σ.	7	1 ;	15,	1,	1,	23,	15,	œ
Applicatio Applicatio Applicatio	Applicatio Applicati	Applicatio Applicati	Applicatio	Applicatio Applicati	Applicatio	Applicatio	Applicatio	Applicatio	Applicatio	Applicatio	Applicatio	Applicati	Applicatio	Applicatio	Applicati	Applicati	Applicatio
6.97e+00 6.97e+00 6.97e+00	ဖွဲ့ဖ	2.45e+00 6.97e+00	8.40e-01	2.45e+00 8.40e-01	2.45e+00	8.40e-01	2.45e+00	2.45e+00	8.40e-01	8.40e-01	2.45e+00	2.45e+00		4	4	4.	2.45e+00

ALIGNMENTS

8888888	8888888888	88888888888	8888888888	RESULT ID P AC X DT 0 DE S CC S
om rs	FILING DATE: CLASSIFICATION: ATTORNEY/AGENT INFORMATION: NAME: Berliner, Robert REGISTRATION NUMBER: 20,121 REFERENCE/DOCKET NUMBER: 555-286 TELECOMMUNICATION INFORMATION: TELEPHONE: 213-977-1001 TELEPHONE: 213-977-1003 INFORMATION FOR SEQ ID NO: 1:	CITY: Los Angeles STATE: California COUNTRY: USA ZIP: 90012 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION DATA: APPLICATION DATA: PCT/US94/14919	נונו סכמטסכים:	LT 1 PCT-US94-14919-1 STANDARD; DNA; UNC; 2763 BP. xxxxxx 01-JAN-1900 Sequence 1, Application PC/TUS9414919. Sequence 1, Application PC/TUS9414919

```
TRESULTA
                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ğ
                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ន្តន្តន្តន្ត
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1053
                                                                                                                         Sequence 1, Application U$/08176413.
Sequence 1, Application U$/08176413
Patent No. 5571510

GENERAL INFORMATION:
APPLICANT: No. 5571510ori, Tsutomu
APPLICANT: No. 5571510ori, Tsutomu
APPLICANT: Carton, Dennis A.
TITLE OF INVENTION: METHOD FOR SELECTIVE METHIONINE
TITLE OF INVENTION: STARVATION OF MALECNAUT CELLS IN
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLONE: methyladenosine phosphatase
FEATURE:
NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
                                                                                                                                                                                                                                                                                                   1413
                                                                                                                                                                                                                                                                                                                        2746
                                                                                                                                                                                                                                                                                                                                                                                                          2626
                                                                                                                                                                                                                                                                                                                                                                                                                               1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2270 AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG
                                                                                                                                                                                                                                    01-JAN-1900
                                                                                                                                                                                                                                                        US-08-176-413-1 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    993
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                        STREET: 1000 CITY: Los Angeles STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTAAAAATACGGACGT 2761
                                                                                                                                                                                                                                                                                                                                                                                    CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGACATTGTGTGTAT-AGAGACTCCTCAATGATTTAGACAACTTCAAAATACAGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAA 2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG
                                                                                                                                                                                                                                                                                                    TTAAAATACGGACGT
                                                                                                                                                                                                                                                                                                                                            TGCGACTGTAAATTGGTACAGTATTTCTGGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                          TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGACATTGTGTGTATTAGAGACTCCTGAATGATTTAGACAACTTCAAAATACAGAAGAA
                                                                                                      ADDRESSEE: Spensley Horn Jubas & STREET: 1880 Century Park East, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ch 20.5%;
1 Similarity 99.0%;
491; Conservative
                                                      90067
                                                                                                                                                                                                                                                                                                   1428
                                                                                                                                                                                                                                                         AND DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 466; DB 10;
Pred. No. 0.00e+00;
0; Mismatches 1
                                                                                                                                                                                                                                                          Target.
                                                                                                                                                                                                                                                         2763
                                                                                                        & Lubitz
Suite 500
          Version
                                                                                                                                                                                                                                                         ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
            #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 4;
                                                                                                                                                  IN MAMMALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                            1412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2329
                                                                                                                                                                                                                                                                                                                                                                 2745
                                                                                                                                                                                                                                                                                                                                                                                                                               1292
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             992
```

RESULT PO

XXXXX

PCT-US94-14920-1

STANDARD; DNA;

UNC;

2763

01-JAN-1900
Sequence 1, Application PC/TUS9414920.
Sequence 1, Application PC/TUS9414920.
GENERAL INFORMATION:
APPLICANT: THE REGENTS OF THE UNIV

THE UNIVERSITY

```
δÃ
                                                                            ρy
                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                   δĀ
                                                                                                                                                                                                                                                                                                                           δã
                                                                                                                                                                                                                                                                                                                                                밁
Ş
                   밁
                                                          В
                                                                                                   밁
                                                                                                                     S
                                                                                                                                          밁
                                                                                                                                                             Š
                                                                                                                                                                                  В
                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                           δĀ
                                                                                                                                                                                                                                                                 뭥
                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 49
                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: HOWELLS, STACY L.

REPERRINGE, DOCKET NUMBER: 9D2864

REPERRINGE, DOCKET NUMBER: 9D2864

TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 455-5110

TELEPAN: (619) 455-5110

INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
INMEDIATE SOURCE:
CIONE: methyladenosine phosphatase
FEATURE:
NAME/KEY: CDS
LOCATION: 1.2763
LOCATION: 1.2763
LOCATION: 1.2763
                                                                                                                                                                                                                          2450
  1413
                   2746
                                        1353
                                                                                1293
                                                                                                    2626
                                                                                                                        1233
                                                                                                                                           2566
                                                                                                                                                               1173
                                                                                                                                                                                   2509
                                                                                                                                                                                                                                               1053
                                                                                                                                                                                                                                                         2270 AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG
                                                             2686
                                                                                                                                                                                                      1113 AAGACATTGTGTGTATTAGAGACTCCTGAATGATTAGACAACTTCAAAATACAGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C;
                                                                                                                                                                                                                                                                                                                            933 AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/0
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Howells, Stacy L.
TTAAAAATACGGACGT 2761
                                       TGCGACTGTAAATTGGTACAGTATTTCTGGAAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                           CCCCACCATTCTCTCTCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                               AAGACATTGTGTGTAT-AGAGACTCCTCAATGATTTAGACAACTTCAAAATACAGAAGAA 2508
                                                                                                                                                                                                                                             CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                              491;
                                                                                                                                                                                                                                                                                                                                                                    h 20.5%;
Similarity 99.0%;
491; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US/08/176,413
                                                                                                                                                                                                                                                                                                                                                                   Score 466; DB 5
Pred. No. 0.00e+
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                            598 G; 803 T;
                                                                                                                                                                                                                                                                                                                                                                             DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                           77 other;
                                                                                                                                                                                                                                                                                                                                                                     1; Indels
                                                                                                                                                                                                                                                                                                                                                                                       Length 2763;
                                                                                                                                                                                                                                                                                                                                                                     4
                                                                                                                                                                                                                                                                                                                                                2329
                                                                                                  2685
                                                                                                                       1292
                                                                                                                                          2625
                                                                                                                                                                                                      1172
                                                                                                                                                                                                                                              1112
                                                                                                                                                                                                                                                                2449
                                        1412
                                                            2745
                                                                               1352
                                                                                                                                                                                                                                                                                                                            992
```

```
Ş
                                                                               Ş
                                                                                                       밁
                                                                                                                              Ş
                                                                                                                                                    밁
                                                                                                                                                                          Ş
                                                                                                                                                                                                 용
                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                 Matches
                                                                                  1173
                                                                                                                               1113
                                                                                                                                                                                                                                                                   NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
2626 TACTITCCTATACTGCCAAAGAATGTGAGGAAGAAATGGGGACTCTITGGTTATTTGA
                                                                                                         2509
                                                                                                                                                      2450
                                                                                                                                                                           1053
                                                                                                                                                                                                  2390
                                                                                                                                                                                                                                               2330
                                                                                                                                                                                                                         993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 2763 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Berliner, Robert
REGISTRATION UNMBER: 20,121
REFERENCE/DOCKET NUMBER: 555:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 213-977-1001
TELEFAX: 213-977-1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version CURRENT APPLICATION DATA: APPLICATION NUMBER: PCT/US94/14920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: OF CALIFORNIA TITLE OF INVENTION: METH
                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                       IMMEDIATE SOURCE:
                                                                                                                                          AAGACATTGTGTGTAT-AGAGACTCCTCAATGATTTAGACAACTTCAAAATACAGAAGAA 2508
                                                                                                                                                                                       AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT 2389
                                                                                            AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT 1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PC-TOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 201 N. Figueroa Street, 5th Floor CITY: Los Angeles STATE: California
                                                          CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC 2625
                                                                                 AAGACATTGTGTGTATTAGAGACTCCTGAATGATTTAGACAACTTCAAAATACAGAAGAA 1172
                                                                                                                                                                           TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                  491;
                                                                                                                                                                                                                                                                                                               h 20.5%;
Similarity 99.0%;
491; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                          methyladenosine phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Robbins, Berliner & Carson
                                                                                                                                                                                                                                                                                                                                                                                                                                DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    METHYLTHIOADENOSINE PHOSPHATASE DEFICIENCY IN
                                                                                                                                                                                                                                                                                                                           Score 466; DB 10;
Pred. No. 0.00e+00;
                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5555-287
                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                      Length 2763;
                                                                                                                                                                                                                                                                                                                 4:
                                                                                                                                                                                                                                                                                                                 Gaps
```

밁

66

YNYGGNNVGAAKTHYYTHTNVSGADSKTVTDSYNASGTSSSNGG-TDGNRSGADSYGSSK 124

```
ф
                                                 밁
                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                         Query Match
Best Local
                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (415) TELEFAX: (415) TELEFAX: (415) NO: 5:
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 215 base pairs
TYPE: nucleic acid
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1413
1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 5, Application US/08238163
Sequence 5, Application US/08238163
Patent No. 5569830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-238-163-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2746 TTAAAAATACGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2686 TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Townsend and Townsend Khourie and Cr
ADDRESSEE: Townsend and Townsend Khourie and Cr
                                                 σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Bastian, Kevin L.
NAME: Bastian, Tolantian, Tolan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 23 TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: PLANT INHIBITORS OF FUNGAL TITLE OF INVENTION: POLYGALACTURONASES AND THEIR USE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: BENNETT, Alan APPLICANT: LABAVITCH, Joh APPLICANT: POWELL, Ann APPLICANT: STOTZ, Henrik
                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
CITY: S
AGGGCATGAAAGCTGCATGTCTTTCCCATATTTTTTCAA-GTTAAGCAGGAATTCCCAA 1023
                                                                                                                                                                                          NAME/KEY: misc_feature
LOCATION: 1..215
OTHER INFORMATION: /standard_name= "Deduced amino
OTHER INFORMATION: sequence of FGIP from bean."
ence 215 BP; 15 A; 8 C; 25 G; 26 T; 141 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTAAAAATACGGACGT
                                                 MSSSSVVSRTASCNDKAKKDGNTTSSWTTDCCNRTWGVCDTDTTYRVNNDSGHNKYSSAN 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/0
FILING DATE: 03-MAY-1994
CLASSIFICATION: 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                             h 1.5%;
Similarity 14.5%;
27; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94105-1493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BENNETT, Alan
LABAVITCH, John
                                                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/238,163
                                                                                             Score 33; DB 5; L
pred. No. 5.79e-06;
75; Mismatches 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2307E-540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Version
                                                                                                  82;
                                                                                                                                              Length 215;
                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Crew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONTROL FUNGAL
                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2745
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ç
δõ
                        밁
                                                 Matches
                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISEASE
                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: BASTLAN, KeVIN L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 2307
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-9600
TELEPAX: (415) 543-9600
TELEFAX: (415) 543-9600
TELEFAX: (415) 543-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMA
APPLICANT: B
APPLICANT: L
APPLICANT: P
APPLICANT: S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1022 AATGACTGGAATTAGAATGTCTTCTTTTTCTCCTGGGCAGCCATGCTATATGTCTTG
                                                                                                OTHER INFORMATION: /standard_name- "Deduced amino acid OTHER INFORMATION: sequence of PGIP from bean." Sequence 215 BP; 15 A; 8 C; 25 G; 26 T; 141 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5, Application US/08238163. Sequence 5, Application US/08238163 Patent No. 5569830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           xxxxxx
01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T 5
US-08-238-163-5 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185 TKSNVS 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  962 GTAATAAACAGAAAACTGGGCCATATTCTTCAGGTTATGGAGGGTTTCTGACCATTCTG 903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          125 TAMTSRNRTGKTANNAVDSRNMGDASVGSDKNTKKHAKNSADGKVGSKNNGDRNNRYGTG
 / Match 1.4%;
Local Similarity 11.9%;
nes 20; Conservative
                      6 MSSSSVVSRTASCNDKAKKDGNTTSSWTTDCCNRTWGVCDTDTTYRVNNDSGHNKYSSAN 65
                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: PATENTIA RELEASE #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: POWELL, Ann APPLICANT: STOTZ, Henrik TITLE OF INVENTION: PLANT TITLE OF INVENTION: POLY
                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 215 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
ATTORNEY/AGENT INI
NAME: Bastian,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                           MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGACC 897
                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/0 FILING DATE: 03-MAY-1994
                                                                                                                                      NAME/KEY: misc_feature
LOCATION: 1..215
                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSEE: Townsend and Townsend Khourie and Crew
T: Steuart Street Tower, One Market Plaza
San Francisco
California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94105-1493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LABAVITCH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BENNETT, Alan
                                                                                                                                                                                          unknown
                                                                                                                                                                             protein
                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLANT INHIBITORS OF FUNGAL POLYGALACTURONASES AND THEIR USE TO CONTROL FUNGAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24
                                                                                                                                                                                                                                                                                                                                                                                                     Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                              US/08/238,163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  John M.
                                                Score 31;
Pred. No. 7
72; Mismat
                                                                                                                                                                                                                                                                                                       2307E-540
                                                 e 31; DB 5; Length 215.
. No. 7.16e-05;
Mismatches 75; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВP
                                                   μ,
                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    963
                                                    ۲,
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
RESULT
ID PO
AC XX
DT 01
DE Se
CC Se
CC C
                                                                                                      δõ
                                                                                                                               뭥
                                                                                                                                                   δÃ
                                                                                                                                                                           밁
                                                                                                                                                                                                   Matches
                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                             TELEFAX: (212) 790-9090
TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 100:
SEQUENCE CHARACTERISTICS:
LENGTH: 74 base paint
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 100, Application PC/TUS9511934.
Sequence 100, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                       1208 TA 1209
                                                                                                                                                     1148 TAGACAACTTCAAAATACAGAAGAAAAGCAAATGACTAGTAAACATGTGGGAAAAAATAT 1207
                                                                                                                                                                                                                                               MOLECULE TYPE: DNA (genomic) Sequence 74 BP; 6 A; 6 C; 1 G; 1 T; 60 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T 6
PCT-US95-11934-100 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 778
Sequence 100, Application PC/TUS9511934 Sequence 100, Application PC/TUS9511934 GENERAL INFORMATION:
                                     01-JAN-1900
                                               XXXXX
                                                          PCT-US95-11934-100 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125 TAMTSRNRTGKTANNAVDSRNMGDASVGSDKNTKKHAKNSADGKVGSK 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              718 TCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66
                                                                                                                               62 NV 63
                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM COMPACTIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0.
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,8
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGATTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 74 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 1155 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 20-SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                   h 1.1%;
Similarity 6.5%;
4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pennie & Edmonds
55 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT/US95/11934
                                                                                                                                                                                                                                                                                                                                                                                                     18,872
                                                                                                                                                                                                   Score 24; DB 11;
Pred. No. 2.80e-01
20; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                           1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Version #1.30
                                                           74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВP
                                                           ВÞ
                                                                                                                                                                                                                          Length 74;
                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  825
                                                                                                                                                                                                     0
                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                     0;
```

```
ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                            Sequence 99, Application PC/TUS9511934.
Sequence 99, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Poptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: DNA (genomic)
Sequence 74 BP; 6 A; 6 C; 1 G; 1 T; 60 other;
                                                                                                                                                                                                                                01-JAN-1900
                                                                                                                                                                                                                                            XXXXXX
                                                                                                                                                                                                                                                      PCT-US95-11934-99 STANDARD; DNA; UNC; 75
                                                                                                                                                                                                                                                                                                     409 GCCACAA 403
                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (212) 869-9741/886
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 100:
                                                                                                                                                                                                                                                                                                                             66 ACCACAA 72
                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: MISTOCK, S. Leslie
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 1101-196-228
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 74 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides)
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: 20-SEF
COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
TOPOLOGY: 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Pennie & Edmonds STREET: 1155 Avenue of the Americas
                                                                        COUNTRY:
                                                                                    CITY: New York
STATE: New Yor)
                                                                                                           STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                         ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE:
                                                              10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New York
                                                                                    New York
                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (212) 790-9090
(212) 869-9741/8864
                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UMBER: PCT/US95/11934
20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                             1.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                                                Score 25; DB 11;
Pred. No. 9.13e-02;
20; Mismatches 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Version #1.30
 Version #1.30
                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                                                                                                                                                                        Length 74;
                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              From
                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     皮
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (214)
TELEX: 66141 PENNIE
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 9
SEQUENCE CHARACTERISTICS:
TENGTH: 75 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                        01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: DNA (genomic)
Sequence 75 BP; 1 A; 1 C; 7 G; 5 T; 61 other;
                                                                                                                                                                                                                                                                                                                                                                                               Sequence 98, Application PC/TUS9511934 Sequence 98, Application PC/TUS9511934
                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US95-11934-98 STANDARD; DNA; UNC; 81
         TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 81 base pairs
                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Cytoge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 1872
REFERENCE/DOCKET NUMBER: 1101-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 859-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151 CACGGCGGTGGT 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.1%;
Local Similarity 12.5%;
les 9; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64 NNBGGTTGTGGT 75
                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMBER: PCT/US95/11934
FILING DATE: 20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: PC
FILING DATE: 20-SEP-19
                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                             APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                           New York
: New York
                                                                                                                                                                                                                                                                                                   1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : (212) 790-9090
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                               Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              UMBER: PCT/US95/11934
20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 25; DB 11; Le Pred. No. 9.13e-02; 19; Mismatches 44;
                                                                                             1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
```

Length 75; Indels

0

Gaps 63

```
ន្តន្តន្ត
                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
Ş
                                           Ş
                       β
                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches
                                                                                              Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NATA:
APPLICATION NUMBER: PCT/US95/11934
FILING DATE: 20-SEP-195
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: MISTOCK, S. Leslie
REGISTRATION NUMBER: 18.872
REGERENCE/DOCKET NUMBER: 1101-196-228
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1000-0000
TELEFAX: (212) 790-9090
TELEFAX: (212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
Sequence 81 BP; 6 A; 6 C; 4 G; 5 T; 60 other;
                                                                                                                                         TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 9
SEQUENCE CHARACTERISTICS:
LENGTH: 81 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: Linear
MOLECULE TYPE: DNA (genom.
Sequence 81 BP; 3 A; 5 C; 6 G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1208 TA 1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 92, Appli
Sequence 92, Appli
GENERAL INFORMATI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT-US95-11934-92 STANDARD; DNA; UNC; 81
472 CACTATG
                                              412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   69 NV 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        / Match 1.1%;
Local Similarity 6.5%;
hes 4; Conservative
                        67 BNNBNNB 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7
                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
                                                                    CTTGAGGGAGGAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGAC 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92, Application PC/TUS9511934.
92, Application PC/TUS9511934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Pennie & Edmonds
1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                            DNA (genomic)
A; 5 C; 6 G; 4 T; 63 other;
                                                                                                         1.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 24; DB 11; Length 81; Pred. No. 2.80e-01; 20; Mismatches 38; Indels
                                                                                            Score 24; DB 11;
Pred. No. 2.80e-01;
20; Mismatches 42
                                                                                                Mismatches 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP.
                                                                                                                      Length 81
                                                                                                Indels
                                                                                                0,
                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
RESULT PROCESSION OF THE PROCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                      Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 6; Conser
                       O1-JAN-1900
O1-JAN-1900
Sequence 97, Application PC/TUS9511934
Sequence 97, Application PC/TUS9511934
GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Pept
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
Sequence 81 BP; 6 A; 6 C; 4 G; 5 T; 60 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 98, Application PC/TUS9511934
Sequence 98, Application PC/TUS9511934
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US95-11934-98 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA

COUNTRY: USA

COUNTRY: USA

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC CDOS/MS-DOS
SOFTWARE: Patentin Release #1.0, 1
CURRENT APPLICATION DATA:
APPLICATION UNMBER: PCT/US95/1193.
FILING DATE: 20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JAN-1900
                                                                                                                                                                                                                                                                                                                      PCT-US95-11934-97 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 98:
SEQUENCE CHARACTERISTICS:
LENGTH: 81 base pairs
TYPE: pucleic acid
                                                                                                                                                                                                                                                                                           XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           409 GCCACAA 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                             73 ACCACAA 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 11/
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
ATTORNEY/AGENT II
NAME: Misrock,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Cytogen C
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.1%;
llarity 9.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cytogen Corporation
VENTION: Antigen Binding Peptides (Abtides) From
VENTION: Peptide Libraries
EQUENCES: 103
  Pennie & Edmonds
55 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT/US95/11934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 25; DB 11; Length 81; Pred. No. 9.13e-02; 20; Mismatches 41; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                         82
                                                                                                                                   Peptides (Abtides)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВP
                                                                                                                                                                                                                                                                                                                         ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

CITY: New York
STATE: New Yor

New York

COUNTRY:

USA

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88888888888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 97:
SEQUENCE CHARACTERISTICS:
LENGTH: 82 base pairs
TYPE: nucleic acid
GTPANDENERS: 610-16
                                                                                                                                                                                                                                                                       Sequence 97, Application PC/TUS9511934. Sequence 97, Application PC/TUS9511934 GENERAL INFORMATION:
APPLICANT: Cytogen Corporation
                                                                                                                                                                                                                                                                                                                          01-JAN-1900
                                                                                                                                                                                                                                                                                                                                      XXXXXX
                                                                                                                                                                                                                                                                                                                                               PCT-US95-11934-97 STANDARD; DNA; UNC; 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: DNA (genomic)
Sequence 82 BP; 1 A; 2 C; 10 G; 8 T; 61 other;
                                                                                                                                                                                                                                                                                                                                                                                                 472 CACTATG 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                412 CTTGAGGGAGGAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGAC 471
                                                                                                                                                                                                                                                                                                                                                                                                                         67 BNNBNNB 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 10036

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: MISTOCK, S. Leslie
REGISTATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 11/
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9990
                                                                                                                                                                                                                                  APPLICANT: Cytogen Corporation
TITLE OF INVENTION: Antigen Binding Peptides (Abtides) From
TITLE OF INVENTION: Peptide Libraries
NUMBER OF SEQUENCES: 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION: NAME: Misrock, S. Leslie
                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                        FILING DATE: 2
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 2
CLASSIFICATION:
                                                              APPLICATION NUMBER:
                                                                                                                                                                                     CITY: New York
                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                   10036
                                                                                                                                                                          New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                 1155 Avenue of the Americas
                                                                                                                                                             USA
                                                                                                                                                                                                             Pennie &
                                                    20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.18;
                                                                PCT/US95/11934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT/US95/11934
                                                                                                                                                                                                             Edmonds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 24; DB 11;
Pred. No. 2.80e-01;
20; Mismatches 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches 42;
                                                                                       Version
                                                                                                                                                                                                                                                                                                                                                ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
٠,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ននន់នននននននន
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ဌ
       ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 17, Application US/08484105
Sequence 17, Application US/08484105
Patent No. 5589341
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: DNA (genomic)
Sequence 82 BP; 1 A; 2 C; 10 G; 8 T; 61 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-484-105-17 STANDARD; DNA; UNC; 3214 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                  TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151 CACGGCGGTGGT 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            211 AGTTCTTCCTTCTAAAATTTCTGGATCATCCAGGCCTGTTCCACCAATTATTCCAATCTT 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.18;
Local Similarity 12.58;
es 9; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71 NNBGGTTGTGGT 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                       CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: OGMAN Ph.D., Richard Aron
REGISTRATION NUMBER: 36,627
REFERENCE/DOCKET NUMBER: A-59032/DJB/RAO
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 494-8771
TELEPAX: (415) 494-8771
                                                                                                                                                                                                                                                                                                APPLICANT: GAVIN, Kimberly
TITLE OF INVENTION: ORIGIN OF REPLICATION COMPLEX GENES
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/484,105
                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                             COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                    ADDRESSEE: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT STREET: 4 Embarcadero Center, Suite 3400 CITY: San Francisco STATE: California
                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                COUNTRY: USA
ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    H: 82 base pairs
                                                                                                                                                                                                                                                                                                                                                           RINE, Jasper
FOSS, Margit
MCNALLY, Francis J
LAURENSON, Patricia
HERSKOWITZ, Ira
                                                                                                                                                                                                                                                                                                                                                                                                                     STILLMAN, Bruce
BELL, Stephen P
KOBAYASHI, Ryuji
                                                                                                                                                                                                                                                                                                                                                   , Joachim J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 25; DB 11
Pred. No. 9.13e-
19; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1101-196-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 11; 1
9.13e-02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
```

```
 \begin{array}{c} \mathbb{R} & \mathbb{R} \\ \mathbb{R} & \mathbb{R} \\ \mathbb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 1.1%; Score 24; DB 5; L Best Local Similarity 100.0%; Pred. No. 2.80e-01; Matches 24; Conservative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 269, Application PC/TUS9608014.

Sequence 269, Application PC/TUS9608014

APPLICANT: LARRY GOLD; NEBOJSA JANJIC; STEVEN RINGQUIST; APPLICANT: PAGRATIS; PENELOPE J. TOOTHMAN TITLE OF INVENTION: HIGH AFFINITY OLIGONUCLEOTIDE TITLE OF INVENTION: FACTOR (TGF), PLATELET-DERIVED TITLE OF INVENTION: GROWTH FACTOR (PDGF) AND HUMAN TITLE OF INVENTION: GROWTH FACTOR (PDGF) AND HUMAN TITLE OF INVENTION: KEROTINOCYTE GROWTH FACTOR (KGF) NUMBER OF SEQUENCES: 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: CDS
LOCATION: 220..2802
Sequence 3214 BP; 897 A; 808 C; 792 G; 717 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.5 inch, 1.44

COMPUTER: IBM compatible

OPERATING SYSTEM: MS-DOS

SOFTWARE: WOrdPerfect 6.1

CURRENT APPLICATION NOTA:

APPLICATION NUMBER: PCT/US96/08014

FILING DATE:

CLASSIFICATION: DATA:

APPLICATION NUMBER: 08/458,423

FILING DATE: 02-JUNE-1995

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/458,424

FILING DATE: 02-JUNE-1995

PRIOR APPLICATION NOMBER: 08/458,594

FILING DATE: 05-JUNE-1995

PRIOR APPLICATION NOMBER: 08/465,594

FILING DATE: 05-JUNE-1995

PRIOR APPLICATION NOMBER: 08/465,594

FILING DATE: 05-JUNE-1995

PRIOR APPLICATION NOMBER: 08/465,591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    xxxxxx
01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T 15
PCT-US96-08014-269 STANDARD; DNA; UNC; 26
APPLICATION NUMBER: 08/465,591
APPLICATION DATA: 05-JUNE-1995
PRIOR APPLICATION DATA: 08/479,725
APPLICATION NUMBER: 08/479,725
PRIOR APPLICATION DATA: 08/479,783
PRIOR APPLICATION NUMBER: 08/479,783
APPLICATION NUMBER: 08/479,783
APPLICATION DATA: 08/618,693
APPLICATION DATA: 08/618,693
APPLICATION DATA: 1996
ATTORNEY,AGENT INFORMATION:
NAME: BAITY J. SWANSON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: CDNA FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 8400 E. Prentice Avenue, Suite 200 CITY: Englewood STATE: Colorado COUNTRY: USA ZIP: 80111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 3214 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.5 inch, 1.44 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 3214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
```

```
CC REGISTRATION NUMBER: 3,215
CC TELECOMMUNICATION INFORMATION:
CC TELECOMMUNICATION INFORMATION:
CC TELEPAX: (303) 793-34333
CC TELEPAX: (303) 793-34333
CC SEQUENCE CHARACTERISTICS:
CC SEQUENCE CHARACTERISTICS:
CC TYPE: nucleic acid
CC TYPE: nucleic acid
CC TOPOLOGY: linear
CC MOLECULE TYPE: RNA
CC FEATURE:
CC OTHER INFORMATION: All pyrimidines are 2'-fluoro (2'-F) modifie
CC FEATURE:
C
```

Search completed: Mon Feb 10 23:15:58 1997 Job time : 91 secs.

```
Description:
Perfect Score:
N.A. Sequence:
Comp:
                                                                                                                                                                                                                                        Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
                                                                                                                                                                                                                                                                                                                                                                                                                            Statistics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tabular output
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nmatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MPsrch_nn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                           score
and is
                                                                                                                                                                                                                                      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STD
                                                                                                                                                                                                                                                                                                                                             ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Release 2.1D John F. Collins, Biocomputing Reservey
Copyright (c) 1993, 1994, 1995 University of E
Distribution rights by Intelligenetics,
                                                                                                                                                                                                                                                                                                                                    No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, serived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       n.a.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              n-pending
1:PCT91 2:PCT92 3:PCT93 4:PCT94 5:PCT95 6:PCT96 7:U75
1:PCT91 2:PCT92 3:PCT93 4:PCT94 13:U791 14:U792
8:U76 9:U771 10:U772 11:U781 12:U782 13:U791 14:U792
15:U800 16:U801 17:U802 18:U803 19:U804 20:U805 21:U806
22:U807 23:U808 24:U809 25:U810 26:U811 27:U812 28:U813
29:U814 30:U815 31:U816 32:U817 33:U818 34:U819 35:U820
36:U821 37:U822 38:U823 39:U824 40:U825 41:U826 42:U827
43:U828 44:U829 45:U830 46:U831 47:U832 48:U833 49:U834
50:U835 51:U836 52:U837 53:U838 54:U839 55:U840 56:U841
57:U842 58:U843 59:U844 60:U845 61:U846 62:U847 63:U848
64:U849 65:U85 66:U86 67:U87 68:U60 69:NEWP 70:NEWU6
71:NEWU7 72:NEWU8
                                                       100.0
100.5
20.5
20.5
20.5
20.5
11.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     not generated
                                                                                                                                                                                                                                        Match
                                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TABLE
Gap 6

    n.a. database search, using Smith-Waterman algorithm

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    >US-08-674-311-1
(1-2269) from US08674311.seq
2269
                                                                                                                                                                                                                                                                                                                                                                                                                          Mean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   656168 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dbase 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Feb
                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GAATTCCGCTCCGCACTGCT.......
CTTAAGGCGAGGCGTGACGA......
                                                                                                                                                                                                                                                                                                                                                                                                                          10.868;
              2269
2269
2763
2763
2763
2763
2763
2763
2763
137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       default
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match
first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10 23:16:19 1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query 0
              554
554
554
                                                                                                                                                                                                                                        DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181066524
                                                                                                                                                                                                                                                                                                                                                                                                                          Variance 5.284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4.0
        US-08-674-
US-60-000-
US-08-176-
US-08-176-
US-08-227-
US-08-227-
US-08-220-
US-08-196-
US-08-404-
                                                                                                                                                                                                                                      Ħ
                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bases
                             Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MasPar time 861.70 Seconds 953.554 Million cell updat
                                                                                                                                                                                                                                      Description
            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       î
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ×
                                                                                                                                                                                                                                                                                                                                                                                                                          scale
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of
        e 1, Applicatio
14, Applicatio
e 14, Applicatio
e 14, Applicatio
e 14, Applicati
e 17, Applicati
e 17, Applicati
e 17, Applicati
e 27, Applicati
e 37, Applicat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Research Unit of Edinburgh,
                                                                                                                                                                                                                                                                                                                                                                                                                          2.057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAAAAAAAAGCGGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G.K.
          0.00e+00
0.00e+00
0.00e+00
0.00e+00
0.00e+00
0.00e+00
0.00e+00
0.00e+00
4.72e-187
6.39e-125
                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                     ed. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2269
Ċ,
        0 0 0 0 0 0
                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application of Sequence 1, Application of GENERAL INFORMATION:

APPLICANT: Olopade, CITILE OF INVENTION:
TITLE OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-674-311-1 STANDARD;
                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Ver
CURRENT APPLICATION NUMBER: US/08/674,311
FILING DATE: Concurrently Herewith
CLASSIFICATION DATA:
APPLICATION HOMBER: US 60/000,831
FILING DATE: 02-JUL-1995
CLASSIFICATION: 435
PRIOR APPLICATION: 435
CLASSIFICATION: 435
          ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Arnold, W
                                                                                                                                                                                                                                                                                              COUNTRY: Un
                                                                                                                                                                                                                                                                                                                                         CITY:
STATE:
                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
STREET: P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.7 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 / 6.6 /
                                                                                                                                                                                                                                                                                                                                                              Houston
                                                                                                                                                                                                                                                                                                                                         Texas
                                                                                                                                                                                                                                                                                                                                                                                 E: Arnold, White P.O. Box 4433
                                                                                                                                                                                                                                                                                                                   United
                                                                                                                                                                                                                                                                                                                 States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               METHYLTHIOADENOSINE PHOSPHORYLASE COMPOSITYONS AND METHODS OF USE IN "SHE-PIACNOSIS AND TREATMENT OF PROLIFERATIVE DISORDERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Olufunmilayo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0S/08674311
US/08674311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-446

US-08-446

US-08-4466

US-08-4466

US-08-617

US-08-617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DAM! DAM!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALIGNMENTS
                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5-08-624-
5-08-624-
5-07-904-
                                                                                                                                                                                                                                                                                                                                                                                                  ĝ,
                                                                                                                                                                                                                                                                                                                 America
                                                                                                                                Herewith
                                                                                                                                                                                                                                                                                                                                                                                                    Durkee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                         Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽₽
                                                                                                                                                                                              #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 Applicatio
14 Applicatio
14 Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8, Application 68, Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14, Applicati
14, Applicati
10, Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8, Applicatio
6, Applicatio
22, Applicati
22, Applicati
58, Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Applicatio
Applicatio
Applicatio
Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Applicati
Applicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Applica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .12e-54
.59e-37
```

```
88888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                          B 8
                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S B
                                                                                                                                    Ъ
                                                                                                                                                        δ
Q
                                                                                                                                                                                              Qy
Qq
Ş
                  g
                                   δÃ
                                                                                               В
                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 2269; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Kitchell, Barbara S.
REGISTRATION NUMBER: 33,928
REFERENCE,DOCKET NUMBER: ARSB:509
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (512) 474-7577
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2269 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TYPE: 1inear
FEATURE:
NAME/KEY: CDS
LOCATION: 122...970
Sequence 2269 BP; 725 A; 407 C; 490 G; 647 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                        541
                                                                                                                                                                               481
                                                                                                                                                                                                   421
                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                              601
                                                                                                                                                             481
                    721
                                        661
                                                           661
                                                                                                  601
                                                                                                                     541
 721
                                                                                                                                                                                                                                                                                                                                                                                                                                               52
                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGTGCCATATTCCAAT
                                                                                                                                                                                                                                                                                   GCATGGAAGGCAGCACCATCATGCCTTCAAAGGTCAACTACCAGGCGAACATCTGGGC 360
                                                                                                                                                                                                                                                                                                                        GGATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAA 240
                                                                                                                                                                                                                                                                                                                                                                                                        CATGGCCTCTGGCACCACCACCACCGCCGTGAAGATTGGAATAATTGGTGGAAACAGGCCT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCGCTTGGTTCCCTTAGTCCCGAGCGCTCGCCCACTGCAGATTCCTTTCCCGTGCAGA 120
                                        GGCAGAAAGCTTCATGTTCCGCACCTGGGGGGGGGGATGTTATCAACATGACCACAGTTCC
                                                                                                                                   GGCTGAGCCGTTTTGCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGG
                                                                                                                                                                                                    GAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCACGACCATGAG
                                                                                                                                                                                                                  GGAGATTCAGCCCGGCGATATTGTCATTATTGATCAGTTCATTGACAGGACCACTATGAG
                                                                                                                                                                                                                                            TTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGA
                                                                                                                                                                                                                                                       TTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCCTCCTTGAGGGA 420
                                                                                                                                                                                                                                                                                                                                                                 GGATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAA 240
AGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGA 780
                                                                              ACTCCGGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCG
                                                                                            ACTCCGGTGCCACAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCG
                                                                                                                       GGCTGAGCCGTTTTGCCCCCAAAACGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 2269; DB 66; Length 2269; Pred. No. 0.00e+00; 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                            720
                                                                                 660
                                                                                                    660
                                                                                                                         600
                                                                                                                                            600
                                                                                                                                                                 540
                                                                                                                                                                                  540
                                                                                                                                                                                                       480
                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

1030	*CHECOROL COMPANY CONTRACTOR CONT	,	ļ.
1860	CTGGGATAATTTTATTTTCTTTGAATCTTTCTGTGTCTTCACATTTTTCTACAGTGAAT	1801	Qy
1860	TGGGATAATTTTTATTTTCTTTGAATCTTTCTGTGTCTTCACAGTTTTTTCTACAGTGAA	œ	Db
1800	TATACAAAAAACTAGAAAGAAATATATATATAACCTTGTTATTTGGGGGGAGGGA	1741	Qy
1800	ATACAAAAAAACTAGAAAGAAATATATATAACCTTGTTATTGTATTTGGGGGGAGGGA		Db
1740	TTTATAGTACTAGTTTTGCTTTAAAATGCTATGTAA	1681	Qy
1740	TGAAAAAAGGATATGGTAGCATTTTATAGTACTAGTT	1681	фd
1680	CATATTTCAATGTCCTAAAAAGACACGGTTGCTCTATATATG	1621	Qy
1680	TGAAAATCCTTTTTGCATATTTCAATGT	Ö	da
1620	TGGAGGTAAATTATGTCTTAGTTATAATCTAGATTGTGAATCAGCC	5	Qy
1620	TCCCTTGCAATTGGAGGTAAATTATGTCT	1561	qq
1560	TGAAACAATCTG	5	γQ
1560	ATATAAAGAAGGGTGTTTAATAATGATAGTTATAATAAATAAATAAATTGAAA	50	Дb
1500	ACTCTACATCTAGCAATTTCTCTTTAAAACCATATCAGAGATGCATACAAAGAATT	1441	Qγ
1500	GAACTCTACATCTAGCAATT	44	Db
1440	ACGGACGTCCTTTGGTGCT	w	Qy
1440	GAGGGCAATTTGGTAAAATGCATCAAAAGACTT	38	Дb
1380	TTATTGATGCGACTGTAAATTGGTACAGTATTTC	1321	Qy
1380	GAAGAAATGGGACTCTTTGGTTATTT	1321	ДĎ
1320	TTTGCAACAATAAAGGGTGGAGGGTAATCTCTACTTTCCTATACTGCCAAAGAATGTG	1261	Qy
1320	ATTTGCAACAATAAAGGGTGGAGGGTAATCTCTACTTTCCTATACTGCCAAAGAATGTGA	1261	Дb
1260	AAGGGGGAAAAAAAACCCCCACCATTCTCTCTCCCCCCTATTAA	1201	Qy
1260	AAATATTTACATTTTAAGGGGGAAAAAAAAAACCCCACCATTCTCTCTC	1201	ф
1200	CAAAATACAGAAGAAAAGCAAATGACTAGTAAACATGTGGG	1141	Qy
1200	ATGATTTAGACAACTTCAAAATACAGAAGAAAAGCAAATGACTAGTAAACATGTGGGAA	1141	Дb
1140	TGTTGTAAGAAAGACAAGACATTGTGTGTATTAGAGACTCCTG	1081	Qy
1140	TGCCTATCAAAGAGTATGTTGT	1081	D _D
1080	TTTTGGGAATTCCTGCTTAACTTGAAAAAAATATGGGAAAGACATGCAGCTTTCATGCCC	1021	Qy
1080	TTTGGGAATTCCTGCTTAACTTGAAAAAAATATGGGAAAGCATGCAGCTTTCATGCCC	1021	Дb
1020	TCCAGTCA	961	Qy
1020	CCAAGACATTAAAGTAGCATGGCTGCCCAGGAGAAAAGAAGAAGAAGATTCTAATTCC	61	ф
960	н -	21	γQ
960	ACAGAATGGTCAGAAACCCTCCATAACCTGAAGAATATGGCCCAGTTTTCTGTTTTATT	901	D
900		41	Qy
900	AAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTC	41	뭥
840	TTATGACTGCTGGAAGGACCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCT	81	Qy
840	TATGACTGCTGGAAGGAAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCCT	781	D D

멓

1861 ATAATCAAATAGTAAAGGGCCGTAAAAATAAAAGTGGATTTAGAAAGATCCAGTTCTTGA 1920

Gaps

0

60 60

240

180 180 120

300

240

360 360 300

780

780

720 720 660 660 600 600

900 840 840

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                    APPLICANT: Olopade, Olurumati,
APPLICANT: Bohlander, Stefan K.
APPLICANT: Bohlander, Martin H.
APPLICANT: Dreyling, Martin H.
APPLICANT: Stedler, Walter M.
APPLICANT: Stedler, Walter M.
APPLICANT: Stedler, Walter M.
APPLICANT: Stepinosa, III, Rafael
APPLICANT: Sveen, Lise W.
APPLICANT: Hagos, Fitsum
APPLICANT: Hagos, Fitsum
APPLICANT: Adeyanju, M.O.
TITLE OF INVENTION: METHVITHIOADENOSINE PHOSPHORYLASE
TITLE OF INVENTION: METHODS AND COMPOSITIONS

"TUBER OF SEQUENCES: 2
  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/60/000,831
FILING DATE: Concurrently Herewith
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Kitchell, Barbara S.
REGISTRATION NUMBER: 33,928
REFERENCE/DOCKET NUMBER: ARCD:156/KIT
TELEPHONE: (512) 418-3000
TELEFAX: (512) 474-7557
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application Sequence 1, Application GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-60-000-831-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                      STREET: 1
CITY: HOI
STATE: TO
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACAGTACTTGGGTGTGCAACAGCTTTCTGAGAAAAAGCTAGGTGTATAATAGTTTAACTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGTGAGCTTCTCCTTTTTATGAGTTAAATTATTTTATACGAGTTGGTAATTTGTGCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGTTTAACTATTTAAAAGACTAAATGCACATTTTATGGTATCTGATATTTTAAAAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGTTTAACTATTTAAAAAGACTAAATGCACATTTTATGGTATCTGATATTTTAAAAAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAACACTGTTTCTGGTAATGAAGCAGAATTTAAGTTGGTAATATTAAGGTGAATGTCATT 1980
                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGTGAGCTTCTCCTTTTTATGAGTTAAATTATTTTATACGAGTTGGTAATTTGTGCCTT
                                                                                                                                                                                              72210
                                                                                                                                                                                                                            Houston
                                                                                                                                                                                                                  Texas
                                                                                                                                                                                                                                       P.O. Box 4433
                                                                                                                                                                                                       United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                 Arnold,
                                                                                                                                                                                                                                                                                                                                                                                                                                         US/60000831.
                                                                                                                                      Release #1.0, Version
                                                                                                                                                                                                                                                 White
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                       of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    UNC;
                                                                                                                                                                                                                                                 & Durkee
                                                                                                                                                                                                       America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВÞ
                                                                                                                                        #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
٠.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
     g
                         Š
                                              밁
                                                                  δÃ
                                                                                          밁
                                                                                                              Ş
                                                                                                                                    ᅜ
                                                                                                                                                       Ş
                                                                                                                                                                                밁
                                                                                                                                                                                                   8
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                       닭
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 2269; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: CI
LOCATION: 13
Sequence 2269 BP;
  841
                           781
                                              781
                                                                    721
                                                                                          721
                                                                                                                661
                                                                                                                                      661
                                                                                                                                                          601
                                                                                                                                                                                601
                                                                                                                                                                                                     541
                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 2269 base pair
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: other nucleic DESCRIPTION: /desc = "DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGATGATCCAGAAATTTTAGAAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAATTCCGCTCCGCACTGCTCACTCCCGCGCAGTGAGGTTGGCACAGCCACCGCTCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGGCCTCTGGCACCACCACCACCGCCGTGAAGATTGGAATAATTGGTGGAACAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTCGCTTGGTTCCCTTAGTCCCGAGCGCTCGCCCACTGCAGATTCCCTTTCCCGTGCAGA 120
     GAAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCATACCTCAGATAGGGTC
                         TTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCGGGTCTTAAAGACCCT
                                                                                AGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGA
                                                                                                                          GGCAGAAAGCTTCATGTTCCGCACCTGGGGGGGCGGATGTTATCAACATGACCACAGTTCC
                                                                                                                                                                      ACTCCGGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCG
                                                                                                                                                                                                                 GGCTGAGCCGTTTTGCCCCCAAAACGAGAGAGGTTCTTATAGAGAGCTGCTAAGAAGCTAGG
                                                                                                                                                                                                                                              ACCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGTGCCATATTCCAAT
                                                                                                                                                                                                                                                                                        GCCATCTGATGCCTTAATTTTGGGGAAGATAAAAAATGTTGATTGCATCCTCCTTGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATGGCCTCTGGCACCACCACCACCGCGTGAAGATTGGAATAATTGGTGGAACAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTCGCTTGGTTCCCTTAGTCCCGAGCGCTCGCCCACTGCAGATTCCTTTCCCGTGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAATTCCGCTCCGCACTCCCCCCCCGCGCAGTGAGGTTGGCACAGCCACCGCTCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                      GGCTGAGCCGTTTTGCCCCCAAAACGAGAGAGGTTCTTATAGAGACTGCTAAGAAGCTAGG
                                                                                                                                                                                                                                                                                                                                                            TTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGGCTCCTTGAGGGA
                                                                    AGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTATCGCCATGGCGACAGA
                                                                                                                GGCAGAAAGCTTCATGTTCCGCACCTGGGGGGGGGGGTGTTATCAACATGACCACAGTTCC
                                                                                                                                                          ACTCCGGTGCCACTCAAAGGGGACAATGGTCACAATCGAGGGACCTCGTTTTAGCTCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
122..97
7: 725 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2269; DB 68;
Pred. No. 0.00e+00;
0; Mismatches 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             490 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             647 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
```

g Š 밁

```
ğ
                                                                                                                                                                                   Q
                                                                                                                                                                                                밁
                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                             δõ
                                                                                                                                                                          밁
                                                                                                                                    Ş
                                                                                                                                                 밁
                                       δÃ
                                                    밁
                                                             Ş
                                                                           밁
                                                                                      δÃ
                                                                                                   밁
                                                                                                             δÃ
                                                                                                                          밁
               δÃ
                            B
      밁
                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                      1441
                                                                                                                                                                                                 1441
                                                                                                                                                                                                             1381
                                                                                                                                                                                                                        1381
                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                   1201
                                                                                                                                                              1501
                                                                                                                                                                          1501
                                                                                                                           1621
                                                                                                                                       1561
                                                                                                                                                  1561
                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                        1681
                                                                                                   1681
                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                                                      TTGCCTATCAAAGAGTATGTTGTAAGAAAGACAAGACATTGTGTGTATTAGAGACTCCTG
                                                                                                                                                                                                                                                                                                                                                        ACCAAGACATTAAAGTAGCATGGCTGCCCAGGAGAAAAGAAGAAGACATTCTAATTCCAGTCA 1020
                                                                                                                                                                                                                                                                                                         ACCAAGACATTAAAGTAGCATGGCTGCCCAGGAGAAAAGAAGACATTCTAATTCCAGTCA
                                                                                                                                                                                                                                                         GGAGGGCAATTTGGTAAAATGCATCAAAAGACTTAAAAATACGGACGTCCTTTGGTGCTG
                                                                                                                                                                                                                                   CTGGGATAATTTTTATTTTCTTTGAATCTTTCTGTGTCTTCACATTTTTCTACAGTGAAT
                                               CTGGGATAATTTTTATTTTCTTTGAATCTTTCTGTGTGTCTTCACATTTTTCTACAGTGAAT 1860
                                                                                                               CTGAAAATCCTTTTTGCATATTTCAATGTCCTAAAAAAGACACGGTTGCTCTATATATGAA 1680
                                                                                                                      CTGAAAATCCTTTTTGCATATTTCAATGTCCTAAAAAGACACGGTTGCTCTATATATGAA 1680
AAACACTGTTTCTGGTAATGAAGCAGAATTTAAGTTGGTAATATTAAGGTGAATGTCATT
                 ATAATCAAATAGTAAAAGGGCCGTAAAAATAAAAGTGGATTTAGAAAGATCCAGTTCTTGA 1920
                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                                                                            1080
                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                 1560
                                                                                                                                                                             1560
                                                                                                                                                                                                                1440
                                                                                                                                                                                                                           1440
                                            1860
```

Qy В δÃ 밁 Q 밁 δÃ В ð

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                 COUNTRY: US

ZIP: 92037

COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
CONFUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: Floppy disk
MEDIUM TYPE: Floppy disk
CONFUTER: ISM PC COMPATER
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION NUMBER: US/08/445,648
FILING DATE: 22-MAY-1995
CLASSIFICATION NUMBER: US/08/27,800
APPLICATION NUMBER: US/08/27,800
FILING DATE: 14-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 34,842
REGISTRATION NUMBER: 34,842
REFERENCE/DOCKET NUMBER: 07340/023001
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/678-5070
TELEFAX: 619/678-5070
TELEFAX: 619/678-5070
TELEFAX: 619/678-5070
TELEFAX: 619/678-5070
TELEFAX: 1796: DNO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 Dasse pairs
TYPE: nucleic acid
TYPE: nucleic acid
TYPE: nucleic acid
TYPE: DNA: (Genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 14, Application U
Sequence 14, Application U
GENERAL INFORMATION:
APPLICANT: CARSON, DEN
APPLICANT: NOBORI, TSU
TITLE OF INVENTION: TU
TITLE OF INVENTION: DE
AND CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1981 TAAGGGAGTTACATCTTTATTCTGCTAAAGAAGAGGGATCATTGATTTCTGTACAGTCAGA 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1981 TAAGGGAGTTACATCTTTATTCTGCTAAAGAAGAGGATCATTGATTTCTGTACAGTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-445-648-14 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: TREATMENT NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
  IMMEDIATE SOURCE:
CLONE: Methylt
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAACACTGTTTCTGGTAATGAAGCAGAATTTAAGTTGGTAATATTAAGGTGAATGTCATT
                                                                                                                                                                                                                                                                                                                                                         STREET: 4225 Execu
CITY: La Jolla
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                  E: Fish & Richardson P.C. 4225 Executive Square, Suite
              Methylthicadenosine Phosphorylase (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSUTOMU A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TUMOR SUPPRESSOR GENE AND METHODS FOR DETECTION OF CANCER, MONITORING OF TU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08445648
US/08445648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DAY UNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          OF TUMOR PROGRESSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2100
```

```
၁၁၁
                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
LOCATION:
Sequence 2763 BE
                                                                                                                                                                                                        XXXXXX
01-JAN-1900
01-JAN-1900
Sequence 1, Application US/08176855
Sequence 1, Application US/08176855
GENERAL INFORMATION:
NAMACO TSUTOMU
                                                                                                                                                                                                                                                                                                           1413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2450
                                                                                                                                                                                                                                                                                                                                                   1353
                                                                                                                                                                                                                                                                                                                                                                       2686
                                                                                                                                                                                                                                                                                                                                                                                           1293
                                                                                                                                                                                                                                                                                                                                                                                                             2626
                                                                                                                                                                                                                                                                                                                                                                                                                                 1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2270 AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG 2329
ADDRESSEE: Spensley Horn Jubas & I
STREET: 1880 Century Park East, St
CITY: Los Angeles
STATE: California
COUNTRY: USA
ZIP: 90067
ZIP: 90067
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatable
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                  US-08-176-855-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               993
                                                                                                                                                              APPLICANT: Nobori, Tsutomu
APPLICANT: Carson, Dennis A.
APPLICANT: Takabayashi, Kenji
TITLE OF INVENTION: METHYLTHIOADENOSINE PHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                      NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                        CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC 2625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTAAAAATACGGACGT 1428
                                                                                                                                                                                                                                                                                                                    TTAAAAATACGGACGT 2761
                                                                                                                                                                                                                                                                                                                                                            TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT 2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG 992
                                                                                                                                                                                                                                                                                                                                                  TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT 1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ch 20.5%;
1 Similarity 99.0%;
491; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP; 780 A; 505 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                  STANDARD; DNA; UNC;
                                                                                                                                            CELLS
                                                                                                                                                              METHYLTHIOADENOSINE PHOSPHATASE DEFICIENCY IN
                                                                                                                                ้ร
           Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 466; DB 59;
Pred. No. 0.00e+00;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598 G;
                                                                                                                                                                                                                                                                  2763
                                                                                                             Q:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      803 T; 77 other;
            Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                               MAMM
RESULT US AC XX DT 01 DT SE CC SE CC CC
                                                                                                  Š
                                                                                                                       밁
                                                                                                                                         Ş
                                                                                                                                                             밁
                                                                                                                                                                               δÃ
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                               ρy
                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 20.5%;
Best Local Similarity 99.0%;
Matches 491; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPAX: (619) 455-5110
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLONE: methyladenosine FEATURE:
NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505
         Sequence 14, Application US/08443880 Sequence 14, Application US/08443880 GENERAL INFORMATION:
                                                                                                    1413
                                                                                                                       2746
                                                                                                                                                                                                                                                                 1173
                                                                                                                                                                                                                                                                                                                                                 1053
                                                                                                                                                                                                                                                                                                                                                                     2390
                                                                                                                                                                                                                                                                                                                                                                                                            2330
                                                                                                                                                                                                                                                                                                                                                                                                                             1233
                                       01-JAN-1900
                                                            US-08-443-880-14
                                                                                                                                                                                                                                                                                                                                                                                         993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/176
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, Stacy L.
REGISTRATION NUMBER: 34,842
REFERENCE/DOCKET NUMBER: PD30
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1855-51100
                                                                                                   TTAAAAATACGGACGT
                                                                                                                                                                                                                                                                                                      CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                                                                                                                               TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                            AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT 2389
                                                                                                                                                                                 CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                          TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
 CARSON, DENNIS
                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/08/176,855
                                                           DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 466; DB 32;
Pred. No. 0.00e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PD3057
                                                            UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598 G; 803 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 2763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
```

2745

1292 2625 1232 2508 1112 2449 1052

```
B
                                                                                                                                      οy
                                                                                                                                                             В
                                                                                                                                                                                  δÃ
                                                                                                                                                                                                           Д
                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                           В
                                         δÃ
                                                                   밁
                                                                                         δõ
Š
                      밁
                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 34,842
REFERENCE/DOCKET NUMBER: 07340/023001
REFERENCE/DOCKET NUMBER: 07340/023001
RELECOMMUNICATION INFORMATION:
TELEPHONE: 619/678-5079
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: Methylthioadenosine Phosphorylase (genomic)
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: NOBORI, TSUTOMU
TITLE OF INVENTION: TUMOR SUPPRESSOR GENE AND
TITLE OF INVENTION: DETECTION OF CANCER, MONIT
AND CANCER
TITLE OF INVENTION: TREATMENT
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESSE: ADDRESSE: FISH & RICHARDSON P.C.
ADDRESSEE: 18-18-6 RICHARDSON P.C.
STREET: 4225 Executive Square, Suite 1400
CITY: La Jolla
STATE: California
                                                                                                                                                                                                             2330
                                                                                            1113
                                                                                                                  2450
                                                                                                                                                                                                                                                                                                                              NAME/KEY: CDS
LOCATION: 1.2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
1233
                                                                     2509
                                                                                                                                       2270 AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG 2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, \
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/443,880
FILING DATE: 22-MAY-1995
FILING DATE: 22-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/227,800
FILING DATE: 14-APR-1994
ATTORNEY/ACENT INFORMATION:
NAME: HOWELLS, STACY L.
NAME: HOWELLS, STACY L.
                                                                                                                                                                                                                                     933
                                                                                                                                                                                        993
                                                                                                                                                                                     AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG 992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                          CCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                            .ch 20.5%;
il Similarity 99.0%;
491; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/443,880
                                                                                                                                                                                                                                                                                 Score 466; DB 5
Pred. No. 0.00e+
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUPPRESSOR GENE AND METHODS FOR PROGRESSI
                                                                                                                                                                                                                                                                                              DB 59;
                                                                                                                                                                                                                                                                                   1,
                                                                                                                                                                                                                                                                                                            Length 2763;
                                                                                                                                                                                                                                                                                       Indels 4;
                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                    2449
                           2625
                                                                                                 1172
                                                                                                                        2508
                                                                                                                                               1112
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                å
 ş
                        ₽
                                              Query Match 20.5%;
Best Local Similarity 99.0%;
Matches 491; Conservative
                                                                                                                                                                                          COUNTY IN 2021

ZIP: 92037

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-POS/MS-DOS
OPERATING SYSTEM: PC-POS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.25
SOFTWARE: PAtentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/227,800A
FILING DATE: 14-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
REFERENCE/DOCKET NUMBER: 07340/023001
TELECOMMUNICATION UNMBER: 07340/023001
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/678-5099
INFORMATION FOR SEO ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 2763 base pairs
TEDET: Nucleic acid
Type: nucleic acid
Type: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1413 TTAAAAATACGGACGT 1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 14, Application US/08227800A. Sequence 14, Application US/08227800A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-227-800A-14 STANDARD; DNA; UNC; 2763 BP.
NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505 C; 598 G; 803 T; 77 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: CARSON, DENNIS A.
APPLICANT: NOBORI, TSUTOMU
TITLE OF INVENTION: TUMOR SUF
TITLE OF INVENTION: DETECTION
CANCER
CONTROL OF CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: TREATMENT NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
                                                                                                                                    TOPOLOGY: linear MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: Methylthloadenosine Phosphorylase (genomic)
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: F1sh & I
STREET: 4225 Execut
CITY: La JOlla
STATE: California
COUNTRY: US
ZIP: 92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTAAAAATACGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                Fish & Richardson P.C.
25 Executive Square, Suite 1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TUMOR SUPPRESSOR GENE AND METHODS FOR DETECTION OF CANCER, MONITORING OF TUMOR PROGRESSI
                                                  Score 466; I
Pred. No. 0.1
0; Mismatci
                                                    Mismatches
                                                                DB 37;
0.00e+00;
                                                                          Length 2763;
                                                     Indels
                                                     4.
                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2745
```

Gaps

992 2329

1172

2565

2449 1052

1412

2745 1352 2685 1292 2625

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                            ATTORNEY/AGENT INFORMATION:
NAME: HOWELLS, STACY L.
REGISTRATION NUMBER: 34,842
REFERENCE/DOCKET NUMBER: PD3459
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619/455-5100
TELEPAX: 619/455-5110
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1113
                                                                                                                                                                                                                                                                                                                                Sequence 14, Application US/08227800
Sequence 14, Application US/08227800
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1053
                                                                                                                                                                                                                                                                                                                                                               01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                  US-08-227-800-14 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          993
                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: Patentin Release #1.0, Version
                                                                                                                                                                                                                                                                             APPLICANT: CARSON, DENNIS A.

APPLICANT: NOBORI, TSUTOMU

TITLE OF INVENTION: METHODS FOR TREATMENT AND DETECTION OF TITLE OF INVENTION: SUSCEPTIBILITY TO, AND PROGRESSION OF, NUMBER OF SEQUENCES: 14
                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 1. CORRESPONDENCE ADDRESS:
                                                                                                                                                   CURRENT APPLICATION DATA:
                                                                                                                                                                                                            ADDRESSEE:
STREET: 18:
CITY: Los !
STATE: Cal!
COUNTRY: US
ZIP: 90067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC 2625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAA 2389
                                                                                                                                                                                                                                                                                                                                                                                                                                            TTAAAAATACGGACGT 2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCCACCATTCTCTCCCCCCTATTAAATTTGCAACAATAAAGGGTGGAGGGTAATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
           LENGTH: 2763 base pairs TYPE: nucleic acid
                                                                                                                       CLASSIFICATION:
                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                         SSEE: SPENSLEY HORN JUBAS & LUBITZ
T: 1880 Century Park East, Suite 5
Los Angeles
                                                                                                                                                                                                                                  California
                                                                                                                                                                                                                        SD
                                                                                                                                            US/08/227,800
                                                                                                                                                                                                                                                                                                                                                                                   2763
                                                                                                                                                                                                                                                                                                                                                                                   ВP
                                                                                                                                                              #1.25
                                                                                                                                                                                                                                                                                            CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1292
  Ş
                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                           몽
                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         នននិននិនិន
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                            Sequence 5097, Application U
Sequence 5097, Application U
GENERAL INFORMATION:
APPLICANT: Haseltine, Wi
TITLE OF INVENTION: Expr
                                                                                                                                                                                                                                                    1413
                                                                                                                                                                                                                                                                       2746
                                                                                                                                                                                                                                                                                                                                                                                                                                   2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: CDS
LOCATION: 1..2763
Sequence 2763 BP; 780 A; 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2270 AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG
                                                                                                                                                                                          01-JAN-1900
                                                                                                                                                                                                   XXXXXX
                                                                                                                                                                                                             US-08-220-691-5097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           933
         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett.
COMPUTER: HP Vectra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
IMMEDIATE SOURCE:
CLONE: Methylthicadenosine
FEATURE:
                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                              TTAAAAATACGGACGT 2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGACTGTAAATTGGTACAGTATTTCTGGAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                                                                                                                                                                                                                                                                                               AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAATTCCTGCTTAACTTGAAAAAAAT 2389
                                                          ADDRESSEE: Carella, Byrne, I
ADDRESSEE: Cecchi, Stewart,
STREET: 6 Becker Farm Road
CITY: Roseland
STATE: New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                         AGAATATGGCCCAGTTTTCTGTTTTATTACCAAGACATTAAAGTAGCATGGCTGCCCAGG
MEDIUM TYPE: Diskette, 3.5
COMPUTER: HP Vectra 486/33
OPERATING SYSTEM: MSDOS ve
                                        ZIP:
                                                                                                                                                                                                                                                   TTAAAAATACGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGAAAAGAAGACATTCTAATTCCAGTCATTTTGGGAAATTCCTGCTTAACTTGAAAAAAAT
                                                                                                                                                                                                                                                                                           TGCGACTGTAAATTGGTACAGTATTTCTGGAAGGGCAATTTGGTAAAATGCATCAAAAGAC
                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ch 20.5%;
l Similarity 99.0%;
491; Conservative
                                      Y: Roseland
TE: New Jersey
NTRY: USA
: 07068
                                                                                                                                                  Haseltine, William, et. al.
                                                                                                                                                                                                            STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                   1428
                                                                                                                 ExpressionProducts 12049
 MSDOS version 5.0
                                                                                                                                                                      US/08220691
US/08220691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 466; DB 37;
Pred. No. 0.00e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ü
                    3.50 inch, 1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                        Bain, Gilf
, & Olstein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Phosphorylase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>ი</u>
                                                                                                                                                                                                             495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
```

ð 밁 Ş Ş

Š ₽ Š S 용

```
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                Βb
                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 11.4%;
Best Local Similarity 84.8%;
Matches 352; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Olstein, Elliot
REGISTRATION NUMBER: 24,025
REFERENCE/DOCKET NUMBER: 325800-71
TELEPHONE: (201) 994-1700
TELEPHONE: (201) 994-1700
TELEFAX: (201) 994-1744
INFORMATION FOR SEQ ID NO: 5097:
SEQUENCE CHARACTERISTICS:
LENGTH: 495 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
Sequence 495 BP; 97 A; 96 C; 127 G; 131 T; 44 other;
                                                                                                                       Sequence 5749, Application US/08196363 Sequence 5749, Application US/08196363 GENERAL INFORMATION:
                                                                                                                                                           01-JAN-1900
                                                                                                                                                                                  US-08-196-363-5749
                                                                                                                                                                                                                                                                                                                                                     253
                                                                                                                                                                                                                                                                                                                                                                                                    193
                                                                                                                                                                                                                                  380 ACACATGTCATAGTGACCACAGCTT-GTGGCTCCTTGAGGGAGGAGATTCAGCCC 433
                                                                                                                                                                                                                                                                                                                               265
                                                                                                                                                                                                                                                                                                                                                                            205
                                                                                                                                                                                                                                                                                                                                                                                                                           147
                                                                                                                                                                                                                                                                                                                                                                                                                                                  134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 74
                                                            APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: ASCII Text CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                 APPLICANT:
                                                                                                                                                                                                                                                                                              CANGGCCTTTAAAGGTTCAATTACCAGGGGANNTTTGGGNTTTNNAAGGAA-AGGGTTTN 371
                                                                                                                                                                                                                                                                                                                                            GGAAGNTAAAAAATGTTGATTGCGTNCTCCTTGGCAAAGGCATGGTAGGNAGNACACCAT
                                                                                                                                                                                                                                                                                                                                                                          AGAACTGAAAATATGTGGATACTCCATTTGGCAAGCCATCTGATGCCTTAATTTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTGTAAGATTGGNAATTAGTTGGTGGAACAGGCCTGGATGATCCAGAA-TTTTAGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTCGCCCACTGCAGATTCCTTTTCCCGTGCAGACATGGCCTCTGGCACCACCACCACCG
                                                                                                                                                                                                                                                        NAACCTTTTTUGUGACCCNAANTTTUNUGGTUUTTGGGGGGGGGGUTTTTUACCC 426
                                                                                                                                                                                                                                                                                                                              G-AAGATAAAAATGTTGATTGCATCCTCCTTG-CAA-GGCATGGAAGGCAGCACCAT
                                                                                                                                                                                                                                                                                                                                                                                                    AAGAACTGCCAAATATGTGGATACTCCATTTGGCAAGCCATCTGATGCCTTAATTTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTG-AAGATTGG-AATAATTGGTGGAACAGGCCTGGATGATCCAGAAATTTTAGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCTCGCCCACTGCAGATTCCTTTCCCGTGCAGACATGGCCTCTGGCACCACCACCACCG
                                                                                                                                                                                                                                                                                 CATG-CCTTCAAAGGT-CAACTACCAGGCGAACATCTGGGCTTTGAAGGAAGAGGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                  Gocayne, Jea
Liu, Li-Ing
Fitzgerald,
                                                          Sutton, Granger
Gocayne, Jeannine
          Adams, Mark
Lee, Normal
                                                                                                Fraser, Claire M.
  Fuldner,
                                                                                   Kirkness,
                                                                                                                                                                                  STANDARD; DNA;
  Rebecca
                                                                                   Ewen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/220,691
                                     Lisa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 258; DB 37; Length 495;
Pred. No. 4.72e-187;
0; Mismatches 52; Indels 11;
                                                                                                                                                                                  UNC;
                                                                                                                                                                                   205
                                                                                                                                                                                   BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                               321
                                                                                                                                                                                                                                                                                                                                                     312
                                                                                                                                                                                                                                                                                                                                                                              264
                                                                                                                                                                                                                                                                                                                                                                                                    252
                                                                                                                                                                                                                                                                                                                                                                                                                                                    192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86
                                                                                                                                                                                                                                                                                                                                                                                                                            204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11;
```

```
15F23333
                                                                                                                        Š
                                                                                                                                                 망
                                                                                                                                                                      Ş
                                                                                                                                                                                               B
                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                       Query Match 8.2%;
Best Local Similarity 94.7%;
Matches 195; Conservative
                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 325800-91
TELEPHONE: (201) 994-1700
TELEPHONE: (201) 994-174
INFORMATION FOR SEQ ID NO: 5749:
SEQUENCE CHARACTERISTICS:
LENGTH: 205 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: linear
Sequence 205 BP; 72 A; 26 C; 31 G; 70 T; 6 other;
                                                                                                                       1606 TIGTGAATCAGCCAACTGAAAATCCTTTTTGCATATTTCAATGTCCTAAAAAGACACGGT 1665
                                                                                                                                                                                                                                                                       1 ATTGAAACANTCTGATTGCGATTGGAATTGAGGTAAATTATGTTTAGTTATAAT-TAGA 59
1546 ATTGAAACAATCTGAATCCCTTGCAATTGGAGGTAAATTATGTTTAGTTATAATCTAGA 1605
         O1-JAN-1900
Sequence 322, Application US/08404891
Sequence 322, Application US/08404891
GENERAL INFORMATION:
                                                                                                                                                                         1666 TGCTCTATATATGAAGTGAAAAAAGGATATGGTAGCATTTTATAGTACTAGTTTTGCTTT
                                                                        T 10
US-08-404-891-322 STANDARD;
                                                             XXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 07068

ZIP: 07068

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3

COMPUTER: HP Vectra 486

OPERATING SYSTEM: MSDOS

SOFTWARE: ASCII Text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/C
                                                                                                                                                                                        120 TGCNCTATATATGAGGTGAAAAAAGGATATGGTAGCATTTTATAGTACTAGTTTTCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Olstein, Elliot
REGISTRATION NUMBER: 24,00
                                                                                                                                                                                                                                        60 TIGIGAATCAAACTGAAAATCCTTTTUNCATATTTCANTGTCCTAAAAAGACACGGT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 16818
CORRESPONDENCE ADDRESS:
ADDRESSE: Carella, Byrne, Bain,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Pellegrino, Susan TITLE OF INVENTION: Human Genes, TITLE OF INVENTION: Products
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Carella,
ADDRESSEE: Olstein
STREET: 6 Becker Fau
CITY: Roseland
STATE: New Jersey
COUNTRY: USA
TID: OTGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6 Becker Farm Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Blake, Judy
White, Owen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fleischmann,
Bult, Carol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MSDOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rebecca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/196,363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             e, 3.50 inch, 1.4Mb storage 486/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24,025
                                                                                                                                                                                                                                                                                                                                  Score 185;
Pred. No. 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Robert
                                                                        DNA; UNC;
                                                                                                                                                                                                                                                                                                                         0; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                version 5.0
                                                                                                                         1751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequences, and
                                                                          137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gilfillan, Cecchi, Stewart,
                                                                                                                                                                                                                                                                                                                                   DB 34; Length 205; .39e-125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Expression
                                                                                                                                                                                                                                                                                                                         ۲.
                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                  179
```

```
RESULT CCC
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                    Best Local
                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                Sequence 14, Application US/08624190. Sequence 14, Application US/08624190 GENERAL INFORMATION:
                                                                                                          01-JAN-1900
                                                                                                                        XXXXXX
                                                                                                                                     US-08-624-190-14 STANDARD; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 137 BP; 24 A; 41 C; 36 G; 30 T; 6 other;
                                                                                                                                                                                          148
                                                                                                                                                                                                       119 CGTGAAGATTGGAATAAT 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (415) 855-05
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                              88
                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: S.
TOPOLOGY: linea.
MOLECULE TYPE: cDI
IMMEDIATE SOURCE:
CLONE: 179320
                                                                                                                                                                                                                                                        28
                                                                                                                                                                                                                                                                                                              1 GCGCAGTGAGGTTGGCACAGC-ACNGCTCTGTGGCTCGCCTTGGTTCCCCTAGTCCCGAGC
APPLICANT: KAVANAUGH PH.D., MICHAEL APPLICANT: POT PH.D., DAVID APPLICANT: WILLIAMS PH.D., LEWIS T. TITLE OF INVENTION: SIGNALLING INOSITOL TITLE OF INVENTION: 5-PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 137 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Altus, Christina M.
TITLE OF INVENTION: PLACENTA DERIVED POLYNUCLEOTIDES AND NUMBER OF SEQUENCES: 2870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                          CGTGAAGATTGGAATAAT 165
                                                                                                                                                                                                                                             GCTCGCCCACTGCAGATTCCTTTCCCGTGCAGACATGGCCTCTGGCACCACCACCACCGC
                                                                                                                                                                                                                                                                                                GCGCAGTGAGGTTGGCACAGCCACCGCTCTGTGGCTCGCTTGGTTCCCTTAGTCCCGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 9D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: U:
FILING DATE: Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ELEPHONE:
                                                                                                                                                                                                                                                                                                                                                      131;
                                                                                                                                                                                                                                                                                                                                                                  5.2%;
Similarity 94.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LUTHER, BARBARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3330 HILLVIEW AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (415)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bills,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seilhamer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pham, Mino Thu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Freitas, Nicole
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wilde, Craig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kelleler, Colleen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Delegeane,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             855-0572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pamela Kay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jeffrey J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Angelo M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/404,891
                                                                                                                                                                                                                                                                                                                                                                  Score 119; DB 55; Length 137; Pred. No. 4.84e-70;
                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                     UNC;
                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0030
                                                                                                                                     ВP
               POLYPHOSPHATE
                                                                                                                                                                                                                                                                                                                                                      ÿ
                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POLYPEPTIDES
                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                87
                                                                                                                                                                                                                                                                                                                           59
                                                                                                                                                                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88888888888888888888888888888888888888
                                                               δÃ
                                                                                                                   Ş
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
            Š
                                        닭
                                                                                           밁
                                                                                                                                               밁
                                                                                                                                                                        Ş
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 4.4%; Score 99; DB 66; Length 578 Best Local Similarity 12.4%; Pred. No. 7.12e-54; Matches 70; Conservative 266; Mismatches 222; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: protein Sequence 578 BP; 37 A; 11 C; 62 G; 65 T; 403 other:
                                                                                                                                                                        349 GAACATCTGGGCTTTGAAGGAAGAGGGCTGTACACATGTCATAGTGACCACAGCTTGTGG
                                                                                                                    706 CATGACCACAGTTCCAGAGGTGGTTCTTGCTAAGGAGGCTGGAATTTGTTACGCAAGTAT
                                                                                                                                                                                                 301 GVTSVSKNGGTVDSGRCYATKTKSTKYHSSCSVKSGNGSGVVKGTKKSDYDHSKSSDSDS
                                                                                                                                                                                                                             588 CTAAGAA-GCTAGGACTCCGGTGC-CACTCAAAGGGGACAATGGTCACAATCGAGGGACC
                                                                                                                                                                                                                                                     242 RKVHTATYRRTRDKYAYTKKATGMKYNSWCDRVWKSYVHVVCSYGSTSDMTSDHSV-ATA 300
                                                                                                                                                                                                                                                                                                            182 VSMNGTSGVNSHTSGSKKRRNNYMNRAGDKKSNTHRTHWGDNYRVDTWATKKYADSHDTR
                                                                                                                                                                                                                                                                                                                                      468 GGACCACTATGAGACCTCAGTCCTTCTATGATGGAAGTCATTCTTGTGCCAGAGGAGTGT
                                                                                                                                                                                                                                                                                                                                                                122 RDDSADYHDYVGTDSKWKHSTSVTKTVAHTWNRVVAKHNRSHCTDNVKTGANTGNKGAVG 181
                                                                                                                                                                                                                                                                                                                                                                                            409 CTCCTTGAGGGAGGAGTTCAGCCCGGCGAT-ATTGTCATTATTGATCAGTTCATTGACA 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                     62 DGSDKYSHKKKSKNKVVTKKRKYVADSKKRGCMKNKHSDMTGTWNMGNAKKTSWSKGGKT 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 SARVRTS-SRDSGRRVGANNMVSKSTSSSDKVKAHGSHRSVTVKASGKMKVDVSGKKKSK 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 578 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION: NAME: GREEN, GRANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 510 -655-3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 450
            GGTCTTAAAGACCCTGAAAGAAAACGCTAATAAAGCCAAAAGCTTACTGCTCACTACCAT 885
                                     SSSKARKDSKMRKCGSSVTKAADRGGGKVARRSTCSSSAGRAAGGDKSGKKTVSSAV-AK 538
                                                                                        NNYMGVGGMHVKTSDTAWSYDKDSGCRGSTGSKKSTANRGRTSRSDGKNAGDTDTKMNYG
                                                                                                                                               YGGCARATTYTTHHGTGHGKTSGKTRKYDVKTRDSSGK-TKSTSHDMKWVTSRACSGSST
                                                                                                                                                                                                                                                                                 GCCATATTCCAATGGCTGAGCCGTTTTGCCCCCAAAACGAGAGGAGGTTCTTATAGAGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: GREEN, GRANT REGISTRATION NUMBER: 31,259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/624,190 FILING DATE:
                                                               CGCCATGGCGACAGATTATGACTGCTGGAAGGAGCACGAGGAAGCAGTTTCGGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: CHIRON CORPORATION
4560 HORTON STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 510-601-2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1182.003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 578;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7;
```

Gaps

7,

408

241

645

447 721

```
မှ
                                                                                  밁
                                                                                                          Сþ
                                                                                                                                     밁
                                                                                                                                                             ç
                                                                                                                                                                                            멍
                                                                                                                                                                                                                  Сb
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                       TELEFAX: 510-655-3542
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 578 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
Sequence 578 BP; 37 A; 11 C; 62 G; 65
                                                                                                                                                                                                                    1080 GGGCATGAAAGCTGCATGTCTTTCCCATATTTTTTTCAAGTTAAGCAGGAATTCCCAAAA 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 14, Application US/08624190 Sequence 14, Application US/08624190 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-624-190-14 STANDARD; DNA; UNC; 578 BP.
  840 AGGGTCTTTAAGACCCGGTCCACCGAAACTGCTTCCTCGTGCTCCTTCCAGCAGTCATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       XXXXX
                                                                         211 KKSNTHRTHWGDNYRVDTWATKKYADSHDTRRKVHTATYRRTRD-KYAYTKKATGMKYNS
                                                                                                                            270 WCDRVWKSYVHVVCSYGSTSDMTSDHSVATAGVTSVSKNGGTVDSGRCYATKTKSTKYHS 329
                                                                                                             960 AATAAAACAGAAAACTGGGCCATATTCTTCAGGTTATGGAGGGTTTCTGACCATTCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         886 ACCTCAGATAGGGTCCACAGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          539 RKSRSNTTTRVKSAVHHSKGRDYRD
                                                                                                                                                                                        91 RGCMKNKHSDMTGTWNMGNAKKTSWSKGGKTRDDSADYHDYVGTDSKWKHSTSVTKTVAH 150
                                                                                                                                                                                                                                               31 DKVKAHGSHRSVTVKASGKMKVDVSGKKKSKDGSDKYSHKKKSKNKVVTKKRKYVADSKK 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/624
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: GREEN, GRANT
REGISTRATION NUMBER: 31,259
REFERENCE/DOCKET NUMBER: 1182
                                                                                                                                                                                                                                                                       Match 3.4%; Score 78; DB 66; Length 578;
Local Similarity 13.0%; Pred. No. 2.59e-37;
es 56; Conservative 195; Mismatches 177; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 510-601-2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: KAVANAUGH PH.D., MICHAEL
APPLICANT: POT PH.D., DAVID
APPLICANT: WILLIAMS PH.D., LEWIS T.
TITLE OF INVENTION: SIGNALLING INOSITOL POLYPHOSPHATE
TITLE OF INVENTION: 5-PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: CHIRON CORPORATION
STREET: 4560 HORTON STREET
                                                        TGACTGGAATTAGAATGTCTTCTTTTCTCCTGGGCAGCCATGCTACTTTAATGTCTTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: UZIP: 94608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMERYVILLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               us/08/624,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1182.003
                                                                                                                                                                                                                                                                                                                              65 T; 403 other;
                                                                                                                                                                                                                                                                        ω,.
                                                                                                                                                                                                                                                                        Gaps
                                                       841
                                                                                269
                                                                                                           901
                                                                                                                                     210
                                                                                                                                                                 961
                                                                                                                                                                                                                                                                        w
                                                     ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Сb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
 Query Match 3.2%;
Best Local Similarity 8.5%;
Matches 39; Conservative
                                                                                                                                                                                      TELEPHONE: (202) 785-5551
TELEPAX: (202) 785-5551
TELEX: 440087 LM WSH
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 477
TYPE: NUCLEIC ACID
TYPE: NUCLEIC ACID
                                                  FEATURE: None
PUBLICATION INFORMATION: None
Sequence 477 BP; 23 A; 12 C; 35 G; 35 T; 372 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 10, Applicat
Sequence 10, Applicat
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-07-904-074A-10 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Irons, Edward S.
REGISTRATION NUMBER: 16,541
REFERENCE/DOCKET NUMBER: None
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 785-5938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660 CGGGAGCTAAA 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  330 SCSVKSGNGSGVVKGTKKSDYDHSKSSDSDSYGGCARATTYTTHHGTGHGKTSGKTRKYD 389
                                                                                                     MOLECULE TYPE: Nucleic Acid
HYPOTHETICAL: Not Applicable
ANTI-SENSE: Not Applicable
FRAGMENT TYPE: Not Applicable
ORIGINAL SOURCE: Synthetically Prepared
IMMEDIATE SOURCE: Synthetically Prepared
                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 3M Double Density 5 1/4" diskette
COMPUTER: Wang PC
OPERATING SYSTEM: MS-DOS (R) Version 3.30
SOFTWARE: Microsoft (R)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Y.H. Joy Yang
TITLE OF INVENTION: Chimeric Anti-CEA Antibody
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 19920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 1500 East Duarte Road CITY: Duarte STATE: California COUNTRY: United States of America ZIP: 91010-0269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STGSKKSTANR 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAACTGTGGTCATGTTGATAACATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VKTR-DSSGKTKSTSHDMKWVTSRACSGSSTNNYMGVGGMHVKTSDT-AWSYDKDSGCRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGTCGCCATGGCGATACTTGCGTAACAATTCCAGCCTCCTTAGCAAGAACCACCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10, Application US/07904074A.
10, Application US/07904074A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E: City of Hope
1500 East Duarte Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                John E. Shively
Rainer Fischer
                                                                                               GENOME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Roy Paxton
                                                                                                                                                                                                                                                                                                                                                                                                            19920615
                                                                                               None
                                                                                                                                                                                                                                                                                                                                                                                                                        US/07/904,074A
    154;
Score 73; DB 13; Length 477; Pred. No. 1.86e-33; Indels 154; Mismatches 263; Indels
                                                                                                                                                                                                                                                                                                                             None
                                                                                                          Prepared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВР
```

Gaps

Gaps

60

579

521

240

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 8, Application US/08446939
Sequence 8, Application US/08446939
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-446-939-8 STANDARD; DNA; UNC; 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    XXXXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        440 ATTGTCATTATTGATCAGTTCATTGACAGGACCACTA 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                      ZIP: 02173
COMPOTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G
                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
TITLE OF INVENTION: TGF- Type Receptor cDNAs
TITLE OF INVENTION: Products and Uses Therefor
    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/786,063
FILING DATE: 31-OCT-1991
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSE: Hamilton, Brook, Smith & Reynolds, P.C
                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 23-SEP-1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lin, Herbert Y APPLICANT: Wang, Xiao-Fan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCATGCCTTCAAAGGTCAAC-TACCAGGCGAACATCTGGGCTTTGAAGGAAGAGGGCTGT
                                                                                                                               APPLICATION NUMBER: FILING DATE: CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                       CITY: Lexington
STATE: Massachus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NNVNDSDGSNNNYSKNTVDKSRWNNGNVNSCSVMHNA 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TNSKAKGNNRNNNVYTNNNSRDNNTKNNVSNTCNVKGNYNSDNAVNWNSNGNNNNNYKTT 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NNWY VDGVNVHNAKTKNRNNNY NSTYRVVSVNTVNHNDWNNGKNY KCKVSNKANNANNNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGGGAAGATAAAAAATGTTGATTGCATCCTCCTTGCAAGGCATGGAAGGCAGCACACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VNNKSCDKTHTCNNCNANNNNGGNSVNNNNNKNKDTNMNSRTNNVTCVVVDASHNDNNVK 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TVSWNSGANTSGVHTNNAVNNSSGNYSNSSVVTVNSSSNGTNTYNCNVNHKNSNTKVDKK 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCACCGCCGTGAAGATTGGAATAATTGGTGGAACAGGCCTGGATGATCCAGAAATTTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RNDYYGGGGNGYWGNGTNATVSAASTKGNSVNNNANSSKSTSGGTAANGCNVKDYNNNNV 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACTCCCGCGCAGTGAGGTTGGCACAGCCACCGCTCTGTGGCTCGCTTGGTTCCCTTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HRHNTMINGNSNINNVNVNKGVNCNVKNVNSGGGNVKNGGSNKNSCAASGNTNSSYAMSW
                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGAAGAACTGAAAAATATGTGGATACTCCATTTGGCAAGCCATCTGATGCCTTAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCGAGCGCTCGCCCACTGCAGATTCCTTTCCCGTGCAGACATGGCCTCTGGCACCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VRNTNNKRNNWVASNSSDGNTNYVDSVKGRNTVSRDNARNNNYNNMSSNRSNDTAMYYCA 124
                                                                                                                                                                                                                                                                        Massachusetts: U.S.A.
                                                                                                                                                                                                                                                                                                                Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                            Herbert Y.
                                                                                                      US 08/311,703
                                                                                                                                                          US/08/446,939
                                                                                                                                                                                      Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΒP
                                                                                                                                                                                        #
                                                                                                                                                                                                                                                                                                                                                                                      Encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54
    Сþ
                                                                                                                                                                                                                                                                                                                                                                                                                                          ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ද
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              င္
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 2.9%;
Best Local Similarity 11.9%;
Matches 43; Conservative
                                                                                                                                                                                                                                                                    Sequence 8, Application US/08446936
Sequence 8, Application US/08446936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: DNA (genomic)
Sequence 383 BP; 27 A; 25 C; 26 G; 34 T; 271 other;
                                                                                                                                                                                                                                                                                                  01-JAN-1900
                                                                                                                                                                                                                                                                                                                           US-08-446-936-8 STANDARD; DNA; UNC;
                                                                                                                                                                                                                                                                                                                XXXXX
                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                      341
                                                                                                                                                                                                                                                                                                                                                                                                                361 A 361
                                                                                                                                                                                                                                                                                                                                                                                                                                            401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            697 ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTC 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 TSCKYCYAYWRKNDNTTYCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDYVTG 120
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatil
OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MTSSGVCHGSGAAGWHVWTRASTHVKSVNNDMVTDNNGAVKCKCDVRSTCDNKSCMSNCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear MOLECULE TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: WH
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                   APPLICANT: Weinberg, Robert A.
APPLICANT: Lodish, Harvey F.
TITLE OF INVENTION: TGF- Type Re
TITLE OF INVENTION: Products and
                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                    A 341
                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCCAGATGTTCGCCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAACTGATCAATAATGACAATATCGCCGGGCTGAATCTCCTCCCT-CAAGGAGCCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSDHTCGRKMVHRDKSSNVKNDTCCCDGSRGYSSVDDANSGVGTARYMAVSRMNNASKTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGGCACAAGAATGACTTCCATCATAGAAGGACTGAGGTCTCATAGTGGTCCAGTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TSTVAVKYDHYASWKDRKDSDNKHNTARKTGKYWTAHAKGNYTRHVSWDRNVGSSARGSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T-AAGAACCTCTCTCGTTTTGGGGCCAAAACGGCTCAGCCATTGGAATA-TGGCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATTGTGACCATTGTCCCCTTTGAGTGGCACCGGAGTCCTAGCTTCTTAGCAGTCTC-TA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: 617-861-62.
TELEFAX: 617-861-9540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                    STATE: Massachusetts
                                                                                                                STREET:
                                                                          COUNTRY:
                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic acid
                                                                                                 Lexington
                                                                                                                E: Hamilton, Brook,
Two Militia Drive
                                                                                                                                                                                               Wang, Xiao-Fan
Weinberg, Robert A.
Lodish, Harvey F.
                                                                         U.S.A.
                                                                                                                                                                                                                                            Lin, Herbert Y.
 IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  165; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32,227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 66;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WHI91-09FX
                                                                                                                               Smith & Reynolds,
                                                                                                                                                                        Receptor cDNAs
nd Uses Therefor
                                                                                                                                                                                                                                                                                                                              383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; DB 59;
. 3.95e-28;
                                                                                                                                                                                                                                                                                                                              ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 383
                                                                                                                                                                                     Encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4;
```

360

342

300 461

```
ç
                                                                                        밁
                                                                                                                  ç
                                                                                                                                                     皮
                                                                                                                                                                               Сb
                                                                                                                                                                                                               망
                                                                                                                                                                                                                                         Сþ
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                       Сb
                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 2.9%; Score 66; DB 59; Length 383; Best Local Similarity 11.9%; Pred. No. 3.95e-28; Matches 43; Conservative 165; Mismatches 149; Indels 4; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:

C ANAME: Granshan, Patricia
C REGISTRATION UNMBER: 32,227
C REFERENCE/DOCKET NUMBER: WHI91-09FY
TELECOMMUNICATION UNFORMATION:
TELEPHONE: 617-861-6240
C TELEPHONE: 617-861-9240
C INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
LENGTH: 383 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: Linear
MOLECULE TYPE: DNA (genomic)
Sequence 383 BP; 27 A; 25 C; 26 G; 34 T; 271 other;
                                                       401 CTGTGGTCACTATGACATGTGTACAGCCCTCTTCCTTCAAAGCCCAGATGTTCGCCTGGT 342
                                                                                                                                                                            341 A 341
                             361 A 361
                                                                         301 VYSMAVWMTSRCNAVGVKDYGSKVRDVVSMKDNVRDRGTRNSSWNHGMVCTTCWDHDART 360
                                                                                                                 460 GAACTGATCAATAATGACAATATCGCCGGGCTGAATCTCCTCCCT-CAAGGAGCCACAAG 402
                                                                                                                                            241 HSDHTCGRKMYHRDKSSNYKNDTCCCDGSRGYSSYDDANSGYGTARYMAYSRMNNASKTD 300
                                                                                                                                                                                                                                     637 GATIGIGACCATIGICCCCTTIGAGIGGCACCGGAGICCTAGCTICITAGCAGICTC-IA 579
                                                                                                                                                                                                                                                                                                                                                                 697 ATCCGCCCCCAGGTGCGGAACATGAAGCTTTCTGCCCGGGAGCTAAAACGAGGTCCCTC 638
                                                                                                                                                                                                                                                            121 SGVASVYCYRVNRKSSTWTGKTRKMSHCADDRSDSSTCANNNHNTDTVGKGRAVYKAKKN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 530
PRIOR APPLICATION DATA: US 08/311,703
APPLICATION UNMBER: US 08/311,703
PILING DATE: 23-SEP-1994
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/786,063
FILING DATE: 31-007-1991
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                61 TSCKVCVAVWRKNDNTTVCHDKYHDDAASKCMKKKKGTMCSCSSDCNDNSYNTSNDVVTG 120
                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/446,936
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                            4;
```

Search completed: Mon Feb $10\ 23:43:38\ 1997$ Job time : $1639\ secs$.